A NEW
Orchard & Garden:

OR,

The beſt way for PLANTING, GRAFFING, and to make any Ground good for a Rich *Orchard*: Particularly in the North, and Generally for the whole Common-wealth, as in Nature Reaſon, Situation, and all Probability, may and doth appear.

With the Country Houſe-wifes *Garden* for *Herbs* of Common uſe. Their Virtues, Seaſons, Profits, Ornaments, Variety of Knots, Models for Trees, and Plots, for the beſt Ordering of Grounds and Walks.

AS ALSO

The Husbandry of *Bees*, with their ſeveral Uſes and Annoyances: *All being the Experience of Forty and eight Years Labour; And now the Sixth time Corrected, and much Enlarged,* By William Lawſon.

Whereunto is newly added the Art of Propagating Plants, with the true Ordering of all manner of Fruits, in their Gathering, Carrying home, and Preſervation.

London, Printed for *George Sawbridge*, at the Sign of the *Bible* on *Ludgate-Hill*. 1676.

To the Right Worſhipful

Sir HENRY BELLOSES, Knight and Baronet.

Worthy Sir,

WHen in many years by long Experience I had furniſhed this my Northern Orchard and Country-Garden with needful Plants and uſeful Herbs, I did impart the view thereof to my Friends, who reſorted to me to confer in matters of that nature; they did ſee it, and ſeeing it, deſired it; and I muſt not deny now the publiſhing of it, (which then I allotted to my private delight) for the publick profit of others. Wherefore, though I could plead Cuſtome, the ordinary excuſe of all Writers, to chuſe a Patron and Protector of their Works, and ſo ſhroud my ſelf from ſcandal under your honourable favour,

yet have I certain reaſons to excuſe this my preſumption: Firſt, the many courteſies you have vouchſafed me. Secondly, your delightful skill in matters of this nature. Thirdly, the profit which I received from your Learned Diſcourſe of Fruit-Trees. Fourthly, your animating and aſſiſting of others to ſuch endeavors. Laſt of all, the rare Work of your own in this kind; all which to publiſh under your protection, I have adventured (as you ſee.) Vouchſafe it therefore entertainment, I pray you, and I hope you ſhall find it not the unprofitableſt Servant of your Retinue; for when your Serious Employments are over-paſſed, it may interpoſe ſome commodity, and raiſe you contentment out of variety.

Your Worſhips
moſt Bounden;
WILLIAM LAWSON.

The Preface,

To all Well-minded.

ART *hath made her firſt Original out of Experience, which therefore is called* The School-Miſtriſs of Fools, *becauſe ſhe teacheth infallibly, and plainly, as drawing her knowledge out of the courſe of Nature, (which never fails in the general) by the ſenſes, feelingly apprehending, and comparing, (with the help of the Mind) the Works of Nature; and as in all other things natural, ſo eſpecially in Trees. For what is Art more than a provident and skilful Correctrix of the faults of Nature in particular works, apprehended by the Senſes? As when good ground naturally brings forth Thiſtles, Trees ſtand too thick, or too thin, or diſorderly, or (without dreſſing) put forth unprofitable Suckers, and ſuch like; all which, and a thouſand more, Art reformeth, being taught by Experience; and therefore muſt we count that Art the ſureſt, that ſtands upon Experimental Rules, gathered by the Rule of Reaſon, (not Conceit) of all other Rules the ſureſt.*

Whereupon have I, of my meer and ſole Experience, without reſpect to any former written Treatiſe, gathered theſe Rules, and ſet them down in writing, not daring to hide the leaſt Talent given me of my Lord and Maſter in Heaven. Neither is this injurious to any, though it differ from the Common opinion in divers points, to make it known to others, what good I have found out, in this faculty by long tryal and experience. I confeſs freely my want of Curious Skill in the Art of Planting: and I admire and praiſe Pliny, Ariſtotle, Virgil, Cicero, *and many others for wit*

and

and judgment in this kind, and leave them to their times, manner, and ſeveral Countries.

I am not determined (neither can I worthily) to ſet forth the praiſes of this Art; how ſome, and not a few, even of the beſt, have accounted it a chief part of earthly happineſs, to have fair and pleaſant Orchards, *as in* Heſperia *and* Theſſaly; *how all with one conſent agree, That it is a chief part of Husbandry,* (*as* Tully de Senectute) *and Husbandry maintains the World: how antient, how profitable, how pleaſant it is; how many Secrets of Nature it doth contain, how loved, how much practiſed in the beſt places, and of the beſt. This hath been done by many: I only aim at the common good. I delight not in curious Conceits, as planting and graffing with the Roots upwards, inoculating Roſes on Thorns, and ſuch like; although I have heard of divers, proved ſome, and read of more.*

The Stationer *hath* (*as being moſt deſirous with me, to further the common good*) *beſtowed much coſt and care in having the Knots and Models by the beſt Artizan cut in great variety, that nothing might be any way wanting to ſatisfie the Curious deſire of thoſe that would make uſe of this Book.*

And I ſhew a plain and ſure way of Planting, which I have found good by 48 *Years* (*and more*) *experience in the North part of* England. *I prejudicate and envy none; wiſhing yet all to abſtain from maligning that good* (*to them unknown*) *which is well intended. Farewell.*

Thine for thy good,

W. L.

The

The beſt, ſure, and readieſt way to make a good Orchard *and* Garden.

CHAP. I.

Of the Gardener, and his Wages.

WHoſoever deſireth and endeavoureth to have a Pleaſant and Profitable *Orchard*, muſt (if he be able) provide himſelf of a Fruiterer, Religious, Honeſt, Skilful in that Faculty, and therewithal Painful. By Religious, I mean (becauſe many think Religion but a Faſhion or Cuſtom to go to Church) maintaining, and cheriſhing things Religious: as Schools of Learning, Churches, Tythes, Church Goods and Rights, and above all things, God's Word, and the Preachers thereof, ſo much as he is able, practiſing Prayers, comfortable Conferences, mutual Inſtruction to edifie, Alms, and other Works of Charity, and all out of a good Conſcience. Religious.

Honeſty in a Gardener, will grace your Garden, and all your houſe, and help to ſtay unbridled Serving-men, giving offence to none, nor calling your Name in to Queſtion by diſhoneſt acts, nor infecting your Family by evil counſel or example. For there is no Plague ſo infectious as Popery and Knavery; he will not purloin your profit, nor hinder your pleaſures. Honeſt.

Concerning his Skill, he muſt not be a Scioliſt, to make a ſhew or take in hand that which he cannot perform, eſpecially in ſo weighty a thing as an *Orchard*: than the which there can be no humane thing more excellent, either for pleaſure or profit, as ſhall (God willing) be proved in the Treatiſe following. And what an hindrance ſhall it be, not onely to the Owner, but to the common good, that the unſpeakable benefit of many hundred years Skilful.

years ſhall be loſt, by the audacious attempt of an unskilful Arboriſt?

Painful. The *Gardener* had not need be an idle or lazy Lubber, for ſo your *Orchard*, being a matter of ſuch moment, will not proſper, there will ever be ſomething to do. Weeds are alwaies growing, the great Mother of all living Creatures, the Earth, is full of ſeed in her Bowels, and any ſtirring gives them heat of Sun, and being laid near day, they grow: Moles work daily, though not alwayes alike: Winter Herbs at all times will grow (except in extream Froſt). In Winter your Trees and Herbs would be lightned of Snow, and your Allies cleanſed: drifts of Snow will ſet Deer, Hares and Conies, and other noyſome Beaſts, over your Walls and Hedges into your *Orchard*. When Summer cloaths your Borders with Green and ſpeckled colours, your *Gardener* muſt dreſs his hedges, and antick works; watch his Bees, and hive them: Diſtil his Roſes and other Herbs. Now begin Summer Fruits to ripen, and crave your hand to pull them. If he have a *Garden* (as he muſt needs) to keep, you muſt needs allow him good help, to end his labours which are endleſs; for no one man is ſufficient for theſe things.

Wages. Such a *Gardener* as will conſcionably, quietly and patiently travel in your *Orchard*, God ſhall Crown the labours of his hands with joyfulneſs, and make the Clouds drop fatneſs upon your Trees; he will provoke your love, and earn his wages and fees belonging to his place. The houſe being ſerved, fallen fruit, ſuperfluity of Herbs and Flowers, Seed, Graffs, Sets, and beſides all other of that Fruit which your bountiful hand ſhall reward him withal, will much augment his wages, and the profit of your Bees will pay you back again.

If you be not able, nor willing to hire a *Gardener*, keep your profits to your ſelf, but then you muſt take all the pains; and for that purpoſe (if you want this faculty) to inſtruct you, have I undertaken theſe Labours, and gathered theſe Rules, but chiefly reſpecting my Countries good.

CHAP.

CHAP. II.

Of the Soyl.

FRuit-Trees moſt common, and meeteſt for our *Northern* Countries, (as Apples, Pears, Cherries, Filbirds Red and White, Plums, Damſons, Bullis,) for we meddle not with Apricocks nor Peaches, nor ſcarcely with Quinces, which will not like in our cold parts, unleſs they be helped with ſome reflect of the Sun or other like means, nor with buſhes bearing berries, as Barberries, Gooſe-berries or Groſers, Raſpe-berries, and ſuch like, though the Barberry be wholſome, and the Tree may be made great; do require (as all other Trees do) a black, fat, mellow, clean and well tempered ſoyl, wherein they may gather plenty of good ſap. Some think the Haſel would have a chanily rock, and the Sallow, and Elder, a wateriſh mariſh. The ſoyl is made better by delving, and other means, being well melted, and the wildneſs of the earth and weeds (for every thing ſubject to man, and ſerving his uſe, (not well ordered) is by Nature ſubject to the curſe,) is killed by froſt and drought, by fallowing and laying on heaps; and if it be wild Earth, with burning. Kinds of trees. Soyl.

If your ground be barren (for ſome are forced to make an *Orchard* of barren ground) make a pit three quarters deep, and two yards wide, and round in ſuch places where you would ſet your Trees, and fill the ſame with fat, pure, and mellow Earth, one whole foot higher than your ſoyl, and therein ſet your plant. For who is able to manure a whole *Orchard* plot, if it be barren? But if you determine to manure the whole Site, this is your way; dig a trench half a yard deep, all along the lower, (if there be a lower ſide of your *Orchard* plot) caſting up all the Earth on the inner ſide, and fill the ſame with good, ſhort, hot and and tender muck; and make ſuch another trench, and fill the ſame as the firſt, and ſo the third, and ſo throughout your ground; and by this means your plot ſhall be fertile for your life. But be ſure you ſet your Trees neither in dung, nor barren Earth. Barren Earth.

Your ground muſt be plain, that it may receive, and keep moiſture, not onely the rain falling thereon, but alſo Water caſt upon it, or deſcending from higher ground by Sluces, Conduits, Plain.

&c. For I account moisture in Summer very needful in the soyl of Trees, and drought in Winter, provided that the Ground be neither boggy, nor the inundation be past 24 hours at any time, and but twice in the whole Summer, and so oft in the Winter.

Moist. Therefore if your plot be in a bank, or have a descent, make trenches by degrees, allyes, walks, and such like, so as the water may be stayed from passage; and if too much water be any hindrance to your walks, (for dry walks do well become an *Orchard*, and an *Orchard* them) raise your walk with earth first, and then with stones as big as wall-nuts, and lastly, with gravel. In Summer you need not doubt too much water from heaven, either to hurt the health of your Body, or your Trees. And if over-flowing molest you, after one day, avoid it then by deep trenching.

Some for this purpose dig the soyl of their *Orchards*, to receive moisture, which I cannot approve: for the roots with digging are oftentimes hurt, and especially being digged by some unskilful Servant; for the *Gardener* cannot do all himself: And moreover, the Roots of *Apples* and *Peares*, being laid near day, with the heat of the Sun, will put forth suckers, which are a great hinderance, and sometimes with evil guiding, the destruction of Trees, unless the delving be very shallow, and the ground laid very level again. *Cherries* and *Plums* without delving, will hardly or never (after twenty years) be kept from such suckers, nor *Asps*.

Grass. Grass also is thought needful for moisture, so you let it not touch the Roots of your Trees; for it will breed moss; and the boal of your Tree near the Earth, would have the comfort of the Sun and Air.

Some take their ground to be too moist, when it is not so, by reason of water standing thereon; for except in sowre Marshes, Springs, and continual over-flowings, no earth can be too moist. Sandy, and fat earth, will avoid all water falling, by receit: indeed a stiff Clay will not receive the water, and therefore if it be grassie or plain, especially hollow, the water will abide, and it will seem wateriſh, when the fault is in the want of manuring, and other good dressing.

This plainness, which we require, had need be natural, because to force any uneven ground, will destroy the fatness: for every soyl

ſoyl hath his cruſt next day, wherein Trees and Herbs put their Roots, and whence they draw their ſap, which is the beſt of the ſoyl, and made fertil with heat and cold, moiſture and drought, and under which, by reaſon of the want of the ſaid temperature, by the ſaid four qualities, no Tree nor Herb (in a manner) will or can put root; as may be ſeen, if in digging your ground, you take the weeds of moſt growth, as graſs, or docks, (which will grow, though they lye upon the earth bare,) yet bury them under the cruſt, and they will ſooner die and periſh, and become manure to your ground. This cruſt is not paſt 15 or 18 inches deep in good ground, or other grounds leſs. Hereby appears the fault of forced plains, *viz.* your cruſt in the lower parts is covered with the cruſt of the higher parts, and both with worſe earth: your heights having the cruſt taken away, are become meerly barren; ſo that either you muſt force a new cruſt, or have an evil ſoyl. And be ſure you level before you plant, leſt you be forced to remove, or hurt your Plants by digging, and caſting among their roots. Your ground muſt be cleared, as much as you may, of ſtones and gravel, walls, hedges, buſhes, and other weeds.

Naturally plain.

Cruſt of the Earth.

CHAP. III.

Of the Site.

THere is no difference, that I find, betwixt the neceſſity of a good ſoyl, and a good Site of an *Orchard*: For a good ſoil (as is before deſcribed, cannot want a good Site; and if it do, the fruit cannot be good; and a good Site will much amend an evil ſoil. The beſt Site is in low grounds, and (if you can) near unto a River. High Grounds are not naturally fat.

Low and near a River.

And if they have any fatneſs by man's hand, the very deſcent in time doth waſh it away. 'Tis with Grounds in this caſe, as it is with men in a Common-wealth; Much will have more: and, *Once Poor, ſeldome or never Rich.* The Rain will ſcind and waſh, and the Wind will blow fatneſs from the heights to the hollows, where it will abide and fatten the Earth, though it were barren before.

Hence it is, that we have ſeldome any plain Grounds, and low, a barren, and as ſeldome any heights naturally fertile. It is

unſpeakable, what fatneſs is brought to low grounds by innndations of Waters; neither did I ever know any barren Ground in a low plain by a River ſide. The goodneſs of the ſoyl in *Howle* or *Hollowderneſs* in *Yorkſhire*, is well known to all that know the River *Humber*, and the huge bulks of their Cattel there. By eſtimation of thoſe that have ſeen the low Grounds in *Holland* and *Zealand*, they far ſurpaſs moſt Countries in *Europe* for fruitfulneſs, and onely becauſe they lie ſo low. The World cannot compare with *Egypt* for fertility, ſo far as *Nilus* doth overflow his Banks: So that a fitter place cannot be choſen for an *Orchard*, then a low plain by a River ſide. For beſides the fatneſs which the Water brings, if any cloudy miſt or rain be ſtirring, it commonly falls down to, and followes the courſe of the River. And where ſee we greater Trees of bulk and bough, then ſtanding on, or near the Water ſide? If you ask why the Plains in *Holderneſs*, and ſuch Countries, are deſtitute of Wood? I anſwer, That Men and Cattel (that have put Trees thence, from out of plains to void corners) are better than Trees. Neither are thoſe places without Trees. Our old Fathers can tell us how Woods are decayed, and People in the room of Trees multiplied. I have ſtood ſomewhat long in this point, becauſe ſome do condemn a moiſt ſoil for Fruit-Trees.

Pſal. 1. 3. Ezek. 17. 8. Eccluſ. 39. 17.

Mr. *Markham.*

Winds.

Chap. 13.

A low ground is good to avoid the danger of Winds, both for ſhaking down your unripe fruit. Trees (the moſt that I know) being loaden with Wood for want of proyning, and growing high by the unskilfulneſs of the Arboriſt, muſt needs be in continual danger of the South-Weſt, Weſt and North-Weſt Winds, eſpecially in *September* and *March*, when the Air is moſt temperate from extream heat and cold, which are deadly enemies to great Winds. Wherefore, chuſe your ground low: Or if you be forced to plant in a higher Ground, let high and ſtrong Walls, Houſes and Trees, as Wall-nuts, Plane-Trees, Oaks and Aſhes, placed in good order, be your fence for Winds.

The ſucken of your dwelling houſe, deſcending into your *Orchard*, if it be cleanly conveyed, is good.

Sun.

The Sun, in ſome ſort, is the life of the World: it maketh proud growth, and ripens kindly and ſpeedily, according to the golden Tearm, *Annus fructificat, non tellus.* Therefore, in the Countries

Countries nearer approaching the Zodiack, the Suns habitation, they have better, and ſooner ripe Fruit, then we that dwell in theſe frozen parts.

This provoketh moſt of our great Arboriſts to plant Apricocks, Cherries and Peaches, by a Wall, and with tacks and other means to ſpread them upon, and faſten them to a Wall, to have the benefit of the immoderate reflex of the Sun, which is commendable, for the having of fair, good, and ſoon ripe Fruit. But let them know, it is more hurtful to the Trees, than the benefit they reap thereby, as not ſuffering a Tree to live the tenth part of his age; it helps *Gardeners* to work. For firſt, the Wall hinders the roots; becauſe into a dry and hard Wall of earth or ſtone a Tree will not, nor cannot put any root to profit, but eſpecially it ſtops the paſſage of the ſap, whereby the bark is wounded, and the Wood and diſeaſes grow, ſo that the Tree becomes ſhort of life. For as in the body of man, the leaning or lying on ſome member, whereby the courſe of blood is ſtopt, makes that member as it were dead for the time, till the blood return to his courſe, and I think, if that ſtopping ſhould continue any time, the member will periſh for want of blood, (for the life is in the blood) and ſo indanger the body; ſo the ſap is the life of the Tree, as the blood is to man's Body: neither doth the Tree in Winter (as is ſuppoſed) want his ſap, no more than man's Body his blood, which in Winter, and time of ſleep, draws inward: ſo that the dead time of Winter, to a Tree, is but a night of reſt: for the Tree at all times, even in Winter, is nouriſh'd with ſap and growth as well as man's body. The chilling cold may well ſome little time ſtay or hinder the proud courſe of the ſap, but ſo little and ſo ſhort a time, that in calm and mild ſeaſons, even in the depth of Winter, if you mark it, you may eaſily perceive the ſap to put out, and your Trees to increaſe their buds which were formed in the Summer before, and may eaſily be diſcerned; for leaves fall not off, till they be thruſt off with the knots or buds, whereupon it comes to paſs, that Trees cannot bear fruit plentifully two years together, and make themſelves ready to bloſſom againſt the ſeaſonableneſs of the next Spring.

Trees againſt a Wall.

And if any Froſt be ſo extream, that it ſtay the ſap too much, or too long, then it kills the forward fruit in the bud, and ſometimes

times the tender leaves and twigs, but not the Tree: Wherefore to return, it is perilous to ſtop the ſap. And where, or when did you ever ſee a great Tree packt on a wall? Nay, who did ever know a Tree ſo unkindly ſplat, come to age? I have heard of ſome that out of their imaginary cunning, have planted ſuch Trees on the *North* ſide of the Wall, to avoid drought: but the heat of the Sun is as comfortable (which they ſhould have regarded) as the drought is hurtful. And although water is a ſovereign remedy againſt drought, yet want of Sun is no way to be helped. Wherefore, to conclude this Chapter, let your ground lye ſo, that it may have the benefit of the *South* and *Weſt* Sun, and ſo low and cloſe, that it may have moiſture, and increaſe his fatneſs, (for Trees are the greateſt ſuckers and pillers of the Earth) and (as much as may be) free from great Winds.

CHAP. IV.

Of the Quantity.

IT would be remembred what a benefit riſeth, not only to every particular Owner of an *Orchard*, but alſo to the Commonwealth by Fruit, as ſhall be ſhewed in the 16th Chapter (God willing); whereupon muſt needs follow, the greater the *Orchard* is (being good, and well kept) the better it is: for of good things, being equally good, the biggeſt is the beſt. And if it ſhall appear, that no ground a man occupieth, (no, not the Corn-field) yieldeth more gain to the purſe, and houſe-keeping (not to ſpeak of the unſpeakable pleaſure) quantity for quantity, then a good *Orchard*, (beſides, the coſt in planting and dreſſing an *Orchard* is not ſo much by far, as the labour and Seeding of your Corn-fields, nor for durance of time comparable, beſides the certainty of the one before the other) I ſee not how any labour or coſt in this kind, can be idely or waſtfully beſtowed, or thought too much.

Orchard as good as a Corn-field.

And what other thing is a Vineyard, in thoſe Countries where Vines do thrive, then a large *Orchard* of Trees bearing fruit; or what difference is there in the juyce of the Grape, and our *Syder* and *Perry*, but the goodneſs of the ſoyl, and clime where they grow? which maketh the one more ripe, and ſo more pleaſant than the other. Whatſoever can be ſaid for the benefit riſing from

Compared with a Vineyard.

an

an Orchard, than makes for the largeneſs of the *Orchard* bounds. And me thinks they do prepoſterouſly, that beſtow moſt coſt and labour, and more ground in and upon a *Garden*, then an *Orchard*, whence they reap and may reap both more pleaſure and more profit, by infinite degrees. And further, that a *Garden* never ſo freſh, and fair, and well kept, cannot continue without both renewing of the earth and herbs often, in the ſhort and ordinary age of a man: whereas your *Orchard* well kept, ſhall dure divers hundred years, as ſhall be ſhewed Chapter 14. In a large *Orchard* there is much labour ſaved, in fencing and otherwiſe: for three little *Orchards* or a few Trees, being in a manner all out-ſides, are ſo blaſted and hangered, and commonly in keeping neglected, and require a great fence; whereas in a great *Orchard*, Trees are a mutual fence one to another, and the keeping is regarded; and leſs fencing ſerves ſix Acres together, then three in ſeveral incloſures. Compared with a Garden.

Now what quantity of ground is meeteſt for an *Orchard*, can no man preſcribe, but that muſt be left to every mans ſeveral Judgment, to be meaſured according to his ability and will; for other neceſſaries beſides Fruit muſt be had, and ſome are more delighted with *Orchards* than others. What quantity of Ground.

Let no man, having a fit plot, plead poverty in this caſe; for an *Orchard* once planted, will maintain it ſelf, and yield infinite profit beſide. And I am perſwaded, that if men did know the right and beſt way of planting, dreſſing, and keeping Trees, and felt the profit and pleaſure thereof, both they that have no *Orchards*, would have them, and they that have *Orchards* would have them larger, yea, Fruit-Trees in their hedges, as in *Worceſterſhire*, &c. And I think the want of planting is a great loſs to our Common-wealth, and in particular, to the Owners of Lordſhips, which Landlords themſelves might eaſily amend, by granting longer time and better aſſurance to their Tenants, who have taken up this Proverb, *Botch and ſit, Build and flit*: for who will build or plant for another mans profit? Or the Parliament might enjoyn every occupier of Grounds to plant and maintain for ſo many Acres of fruitful Ground, ſo many ſeveral Trees, or kinds of Trees for Fruit. Thus much for Quantity. What is no hindrance. How Landlords by their Tenants may make flouriſhing Orchards in *England*.

CHAP.

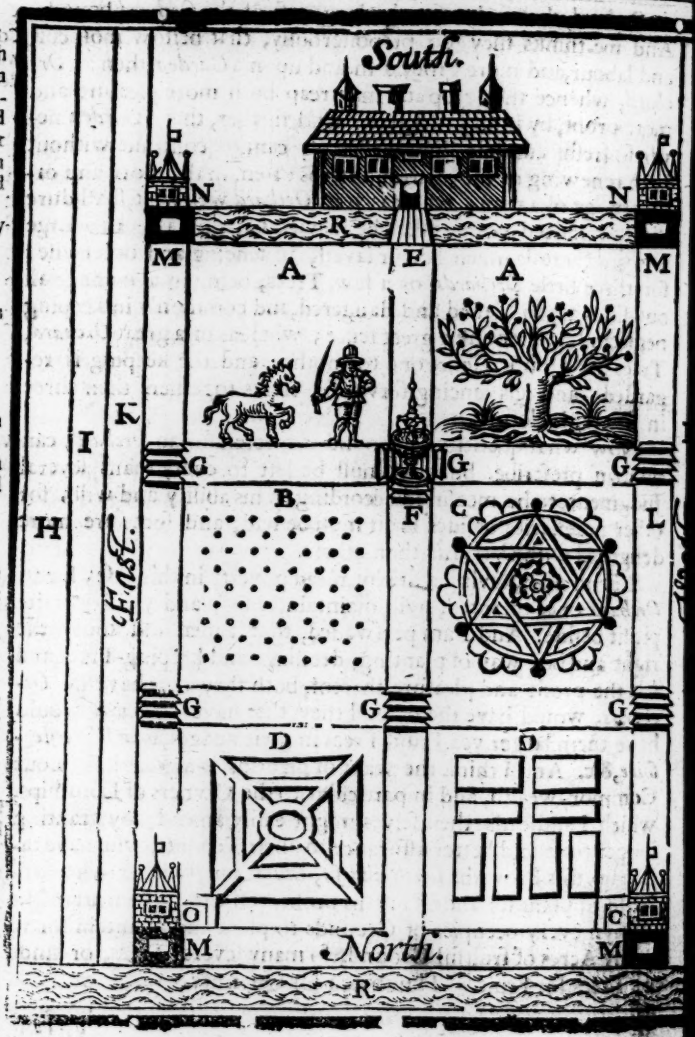
A. All theſe ſquare muſt be ſet with Trees, the Garden and other Ornaments muſt ſtand in ſpaces betwixt the Trees, and in the borders and fences.
B. Trees twenty yards aſunder.
C. Garden Knots

D. Kitching Garden
E. Bridge.
F. Conduit.
G. Staires.

H. Walks ſet with great wood thick.
I. Walks ſet with great wood round about your Orchard.
K. The Out fence,
L. The Out fence ſet with ſtone-fruit

M. Mount. To force Earth for a Mount or ſuch like, ſet it round with quick, and lay boughes of Trees ſtrangely intermingled, the tops inward, with the Earth in the middle.
N. Still houſe.
O. Good ſtanding for Bees, if you have an houſe.

P. If the River run by your door, and under your Mount, it will be pleaſant.



CHAP. V.

Of the Form.

THe goodne's of the Soil and Site, are neceſſary to the well-being of an Orchard ſimply; but the form is ſo far neceſſary, as the owner ſhall think meet. For that kind of form wherewith every particular man is delighted, we leave it to himſelf, *Suum cuique pulchrum.* The form that men like in general, is a ſquare: for although roundneſs be *forma perfectiſſima*, yet that Principle is good, where neceſſity by Art doth not force ſome other form. If within one large ſquare, the Gardiner ſhall make one round Labyrinth or Maze, with ſome kind of Berries, it will grace your form, ſo there be ſufficient room left for walks, ſo will four or more round knots do, for it is to be noted, that the eye muſt be pleaſed with the form. I have ſeen ſquares riſing by degrees, with ſtairs from your houſe-ward, according to this form which I have, *Craſſa quod ajunt Minerva*, with an unſteady hand, rough hewen, for in forming Country Gardens, the better ſort may uſe better forms, and more coſtly work. What is needful more to be ſaid, I refer all that (concerning the form) to the Chapter 17. *Of the Ornaments of an Orchard.*

The uſual Form is a ſquare.

CHAP. VI.

Of Fences.

ALl your labour paſt and to come about an Orchard is loſt, unleſs you fence well: it ſhall grieve you much to ſee your young Sets rub'd looſe at the roots, the bark pill'd, the boughs and twigs cropt, your fruit ſtoln, your Trees broken, and your many years labours and hopes deſtroyed, for want of Fences. A chief care muſt be had in this point: you muſt therefore plant in ſuch a Soil, where you may provide a convenient, ſtrong, and ſeemly fence. For you can poſſeſs no goods, that have ſo many enemies as an Orchard, look Chapter 13. Fruits are ſo delightſome, and deſired of ſo many, (nay, in a manner of all) and yet few will be at coſt, and take pains to provide them. Fence well therefore; let your plot be wholly in your own power, that you

Effects of evil fencing.

Let the fence be your own.

make all your fence your ſelf: for neighbours fence is none at all, or very careleſs. Take heed of a door or window, (yea of a wall) of any other mans into your Orchard, yea, though it be nailed up, or the wall be high, for perhaps they will prove thieves.

Kinds of Fences, earthen walls.

All fences commonly are made of Earth, Stone, Brick, Wood, or both Earth and Wood: Dry wall of earth, and dry ditches are the worſt fences ſave pails or rails, and do waſte the ſooneſt, unleſs they be well copt with Glooe and Morter, whereon at *Michael*-tide it will be good to ſowe Wall-flowers, commonly called Bee-flowers, or winter-Gilly-flowers, becauſe they will grow (though amongſt ſtones) and abide the ſtrongeſt froſt & drought, continually green and flowring, even in winter, and have a pleaſant ſmell, and are timely, (that is, they will flower the firſt and the laſt of flowers) and are good for Bees. And your earthen wall is good for Bees, dry and warm, but theſe fences are both unſeemly, evil to repair, and only for need, where ſtone or wood cannot be had. Whoſoever makes ſuch walls muſt not pill the ground in the Orchard, for getting earth, nor make any pits or hollows, which are both unſeemly and unprofitable: Old dry earth mixt with ſand is beſt for theſe. This kind of wall wil ſoon decay by reaſon of the Trees which grow near it, for the roots and boals of great Trees, will increaſe, undermine, and overturn ſuch Walls, though they were of ſtone, as is apparent by Aſhes, Round-trees, Butt-trees, and ſuch like, carried in the chat, or berry, by birds into ſtone walls.

Pale and Rail.

Fences of dead wood, as pales will not laſt, neither will rails either laſt or make good fence.

Stone walls.

Stone walls (where ſtone may be had) are the beſt of this ſort, both for fencing, laſting, and ſhrowding of your young trees; but about this you muſt beſtow much pains and more coſt, to have them handſome, high, and durable.

Quick wood and Moats.

But of all other (in mine opinion) Quick-woods and moats, or ditches of water, where the ground is level, is the beſt fence: In unequal grounds, which will not keep water, there a double ditch may be caſt, made ſtreight and level on the top two yards, broad for a fair walk, five or ſix foot higher than the ſoil, with a gutter on either ſide, two yards wide, & four foot deep, ſet without with three or four chefs of thorns, and within with Cherries, Plums,

Plums, Damſons, Bullis, Filbirds, (for I love thoſe trees better for their fruit, and as well for their form, as Privit,) for you may make them take any form. And in every corner, (and middle if you will) a mount would be raiſed, whereabout the wood may claſp, poudered with wood-bind, which will make with dreſſing a fair, pleaſant, profitable, and ſure fence. But you muſt be ſure that your quick thorns either grow wholly, or that there be a ſupply betimes, either planting new, or plaſhing the old where need is. And aſſure your ſelf, that neither wood, ſtone, earth, nor water, can make ſo ſtrong a fence as this at ſeven years growth.

Moats, Fiſh-ponds, and (eſpecially at one ſide of a River) within and without your fence, will afford you fiſh, fence, and moiſture to your Trees, and pleaſure alſo, if they be ſo great and deep that you may have Swans, and other water-Birds, good for devouring of vermine, and boat for many good uſes. Moats.

It ſhall hardly avail you to make any fence for your Orchard, if you be a niggard of your fruit. For as liberality will ſave it beſt from noiſom neighbours, (Liberality, I ſay, is the beſt fence) ſo Juſtice muſt reſtrain Rioters. Thus when your ground is tempered, ſquared, and fenced, it is time to provide for planting.

CHAP. VII.

Of Sets.

THere is not one point (in my Opinion) about an Orchard more to be regarded, than the choice getting and ſetting of good Plants, either for the readineſs of having good fruit, or for continual laſting, for whoſoever ſhall fail in the choice of good Sets, or in getting, or gathering, or ſetting his plants, ſhall never have a good or laſting Orchard. And I take want of skill in this faculty, to be a chief hinderance to the moſt Orchards, and to many for having Orchards at all.

Some for readineſs uſe Slips, which ſeldom take Root, and if they do take, they cannot laſt, both becauſe their Root having a main wound will in ſhort time decay the body of the Tree: and beſides, that Roots being ſo weakly put, are ſoon nipt with drought or froſt, I could never ſee (lightly) any ſlip, but of Apples only, ſet for Trees. Slips.

Bur-knot. A Bur-knot kindly taken from an Apple-tree, is much better and surer. You must cut him close at the Root end, an handful under the knot, (some use in Summer about Lammas, to circumcise him, and put earth to the knots with hay-Ropes, and in winter cut him off and set him; but this is curiosity needless, and danger with removing and drought) and cut away all his twigs save one, the most principal, which in setting you must leave above the earth, burying his trunck in the crust of the earth for his Root. It matters not much what part of the bough the twigs grow out of. If it grow out of, or neer the Root end, some say such an Apple will have no core nor kernel. Or if it please the Planter, he may let the bough be crooked, and let out his top-end one foot, or somewhat more, wherein will be good grafting, if either you like not, or doubt the fruit of the bough, (for commonly your bur-knots are Summer-fruit) or if you think he will not recover his wound safely.

Usual Sets. The most usual kind of Sets, are Plants with Roots growing, of kernels of Apples, Pears, and Crabs, or stones of Cherries, Plums, &c. removed out of a nursery, wood, or other Orchard, into, and set, in your Orchard in due places; I grant this kind to be better than either of the other by much, as more sure and more durable. Herein you must note, that in sets so removed, you get all the Roots you can, and without bruising of any; I utterly dislike the opinion of those great Gardiners, that following their Books, would have the main Roots cut away: for tops cannot grow without Roots. And because none can get all the Roots, and removal is an hinderance, you may not leave on all the tops, when you set them: For there is a proportion betwixt the Top and Root of a Tree, even in the number (at least in the growth) if the Roots be many, they will bring you many Tops, if they be not hindered. And if you use to stow or top your tree too much, or too low, and leave no issue, or little for sap, (as is to be seen in your hedges) it will hinder the growth of Roots & Boal, because such a kind of stowing is a kind of smothering or choaking the sap. Great Wood, as Oak, Elm, Ash, &c. being continually kept down with sher knife, ax, &c. neither boal nor root will thrive, but as an hedge or bush. If you intend to graft in your Sets, you may cut him closer with a greater wound, and nearer the earth

Main Roots cut.

Stow Sets removed.

with-

within a foot or two, becauſe the graft or grafts will cover his wound. If you like his fruit, and would have him to be a tree of himſelf, be not-ſo bold. This I can tell you, that though you do cut his top cloſe, and leave nothing but his bulk, becauſe his roots are few, if he be (but little) bigger than your thumb, (as I wiſh all plants removed to be) he will ſafely recover his wound within ſeven years, by good guidance, that is, if the next time of dreſſing, immediately above his uppermoſt ſprig, you cut him off aſlope cleanly, ſo that the ſprig ſtand on the back-ſide, (and if you can Northward, that the wound may have the benefit of the Sun) at the upper-end of the wound, and let that ſprig only be the boal. And take this for a general Rule, Every young plant, if he thrive, will recover any wound above the earth, by good dreſſing, although it be to the one half, and to his very heart. This ſhort cutting at the remove, ſaves your plants from wind, and needs the leſs or no ſtaking: I commend not lying or leaning of Trees againſt holds or ſtays, for it breeds obſtruction of ſap, and wounds incurable. All removing of Trees as great as your arm, or above, is dangerous; though ſome time ſuch will grow, but not continue long, becauſe they be tainted with deadly wounds, either in their root or top, (and a tree once thorowly tainted, is never good.) And though they get ſome hold in the earth with ſome leſſer taw or taws, which give ſome nouriſhment to the body of the Tree, yet the heart being tainted, he will hardly ever thrive; which you may eaſily diſcern by the blackneſs of the boughs at the heart, when you dreſs your trees. Alſo, when he is ſet with more tops than the Roots can nouriſh; the tops decaying, blacken the boughs, and the boughs the arms, and ſo they boyl at the very heart. Or this taint in the removal, if it kill not preſently, but after ſome ſhort time, it may be diſcerned, black, or yellowneſs in the bark, and a ſmall hungred leaf. Or if your removed plant put forth leaves the next and ſecond Summer, and little or few ſpraſes, is a great ſigne of a taint, and next years death. I have known a Tree tainted in ſetting, yet grow, and bear bloſſoms for divers years; and yet for want of ſtrength could never ſhape his fruit.

General rule.

Tying of trees.

General rule.

Signes of Diſeaſes, chap. 13.

Next unto this, or rather equal with theſe Plants, are ſuckers growing out of the Roots of great Trees, which Cherries and Plums

Suckers good ſets.

Plums do ſeldom or never want, and being taken kindly with their Roots, will make very good Sets. And you may help them much by enlarging their Roots with the taws of the tree, whence you take them. They are of two ſorts; either growing from the very root of the Tree: and here you muſt be careful, not to hurt your Tree when you gather them, by Ripping amongſt the Roots, and that you take them clean away; for theſe are a great and continual annoyance to the growth of your Tree, and they will hardly be cleanſed. Secondly, or they do ariſe from ſome taw: and theſe may be taken without danger, with long and good Roots, and will ſoon become Trees of ſtrength.

A Running Plant.

There is another way, which I have not thorowly proved, to get not only plants for graffing, but Sets to remain for Trees, which I call a *Running Plant*, the manner of it is this: Take a Root or kernel, & put it into the middle of your plot; & the ſecond year in the ſpring, geld his top, if he have one principal, (as commonly by nature they have) and let him put forth only four Syons toward the four corners of the Orchard, as near the earth as you can. If he put not four (which is rare) ſtay his top till he have put ſo many. When you have four ſuch, cut the ſtock aſlope, as is aforeſaid in this Chapter, hard above the uppermoſt ſprig, and keep thoſe four without Syons clean and ſtreight till you have them a yard and a half, at leaſt, or two yards long. Then the next ſpring, in graffing time, lay down thoſe four ſprays, towards the four corners of your Orchard, with their tops in a heap of pure and good earth, and raiſed as high as the root of your Syon, (for ſap will not deſcend) & a ſod to keep them down, leaving nine or twelve inches of the top to look upward. In that hill he will put roots, and his top new Syons, which you muſt ſpread as before, and ſo from hill to hill, till he ſpread the compaſs of your ground, or as far as you liſt. If in bending, the Syons crack, the matter is ſmall; cleanſe the ground, and he will recover. Every bended bough will put forth branches, and become Trees. If this plant be of a bur knot, there is no doubt: I have proved it in one branch my ſelf, and I know at *Wilton* in *Cleveland*, a Pear-tree of a great bulk and age, blown cloſe to the earth, hath put at every knot Roots into the earth, and from Root to top, a great number of mighty arms or trees, filling a great room, like many Trees, or

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a little Orchard; much better may it may be done by Art, in a leſs Tree. And I could not miſlike this kind, ſave that the time will be long before it come to perfection.

Many uſe to buy ſets already grafted, which is not the beſt way: for firſt, all removes are dangerous: Again, there is danger in the carriage: Thirdly, it is a coſtly courſe of planting: Fourthly, every Gardner is not truſty to ſell you good Fruit: Fifthly, you know not which is beſt, which is worſt, and ſo may take moſt care about your worſt Trees. Laſtly, this way keeps you from practiſe, and ſo from experience, in ſo Good, Gentlemanly, Scholar-like, and profitable a faculty. Sets bought.

The only beſt way (in my opinion) to have ſure and laſting Sets, is never to remove: for every remove is a hinderance, if not a dangerous hurt, or deadly taint. This is the way: The platform being laid, and the plot appointed where you will plant every Set in your Orchard, dig the room where your Set ſhall ſtand, a yard compaſs, and make the earth mellow and clean, and mingle it with a few cole-aſhes, to avoid worms, and immediately after the firſt change of the Moon, in the latter end of *Febrnary*, the earth being afreſh turned over, put in every ſuch room three or four kernels of Apples or Pears of the beſt; every kernel in an hole made with your finger, finger-deep, a foot diſtant one from another, and that day month following, as many more, (leaſt ſome of the former miſs) in the ſame compaſs, but not in the ſame holes. Hence (God willing) ſhall you have roots enough: If they all, or divers of them come up, you may draw (but not dig) up (not put down) at your pleaſure, the next *November*. How many ſoever you take away, to give or beſtow elſewhere, be ſure to leave two of the proudeſt. And when in your ſecond or third year you graff, if you graff them at all, leave the one of thoſe two ungrafted, leſt in graffing the other you fail. For I find by trial, that after the firſt or ſecond graffing in the ſame ſtock, being miſt (for who hits all) the third meſs puts your ſtock in deadly danger, for want of iſſue of ſap. Yea, though you hit in graffing, yet may your graffs with wind or otherwiſe be broken down. If your graffs or graff proſper, you have your deſire, in a plant unremoved, without taint, and the fruit at your own choice: and ſo you may, (ſome little earth being removed) pull, but not dig The beſt Sets. Unremoved how.

up

up the other plant or plants in that room. If your graff or ſtock, or both periſh, you have another in the ſame place, of better ſtrength to work upon, for thriving without ſnub, he will overlay your grafted ſtock much. And it is hardly poſſible to miſs in grafting ſo often, if your Gardiner be worth his name.

Sets ungrafted beſt of all.

It ſhall not be amiſs, (as I judge it) if your kernels be of choice fruit, and that you ſee them come forward proudly in their body, and bear a fair and broad leaf in colour, tending to a greeniſh yellow, (which argues pleaſant and great fruit) to try ſome of them ungrafted: for although it be a long time e're this come to bear fruit, ten or twelve years or more; and at their firſt bearing, the fruit will not ſeem to be like his own kind, yet am I aſſured, upon trial, before twenty years growth, ſuch Trees will increaſe the bigneſs and goodneſs of their fruit, and come perfectly to their own kind. Trees (like other breeding Creatures) as they grow in years, bigneſs, and ſtrength, ſo they mend their fruit. Husbands and Houſewives find this true by experience, in the rearing of their young ſtore. More than this, there is no Tree like this for ſoundneſs, and durable laſt, if his keeping and dreſſing be anſwerable. I grant, the readieſt way to come ſoon to fruit, is graffing; becauſe, in a manner, all your graffs are taken off fruit-bearing Trees.

Time of removing.

Now when you have made choice of your Sets to remove, the ground being ready, the beſt time is, immediately after the fall of the Leaf, in or about the change of the Moon, when the ſap is moſt quiet, for then the ſap is turning; for it makes no ſtay, but in the extremity of drought or cold: At any time in winter,

Ge neral rule.

may you tranſplant Trees, ſo you put no ice nor ſnow to the Root of your Plant in the ſetting: and therefore open, calm, and moiſt weather is beſt. To remove, the Leaf being ready to fall, and not fallen, or buds apparently put forth in a moiſt warm ſeaſon, for need, ſometime may do well; but the ſafeſt is to walk in the plain trodden path.

Some hold Opinion, That it is beſt removing before the fall of the Leaf, and I hear it is commonly practiſed in the South by our beſt Arboriſts, the leaf not fallen, & they give the reaſon to be, that the deſcending of the ſap will make ſpeedy Roots. But mark the Reaſons following, & I think you ſhall find no ſoundneſs either

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in that poſition or practice, at leaſt in the reaſon.

1. I ſay it is dangerous to remove when the ſap is not quiet; for every remove gives a main check to the ſtirring ſap, by ſtaying the couſe thereof in the body of your plant, as may appear by trees removed any time in Summer, they commonly dye, nay, hardly ſhall you ſave the life of the moſt young and tender plant of any kind of wood (ſcarcely hearbs) if you remove them in the pride of ſap; for proud ſap univerſally ſtayed by removal, ever hinders, often taints, and ſo preſently, or in very ſhort time kills. Sap is like blood in mans body, in which is the life, Chap. 3. page 9. If the blood univerſally be cold, life is excluded: ſo is ſap tainted by untimely removal. A ſtay by drought, or cold, is not ſo dangerous, (though dangerous, if it be extream) becauſe more natural.

2. The ſap never deſcends, as men ſuppoſe; but is conſolidated and tranſubſtantiated into the ſubſtance of the tree, and paſſeth (alwaies above the earth) upward, not only betwixt the bark and the wood, but alſo into and in both body and bark, though not ſo plentifully, as may appear by a tree budding, nay, fructifying two or three years, after he be circumciſed, at the very root, like a River that enlargeth his channel by a continual deſcent.

3. I cannot perceive what time they would have the ſap to deſcend. At *Midſummer* in a biting drought it ſtayes, but deſcends not; for immediately upon moiſture it makes ſecond ſhoots, at (or before rather) *Michaeltide*, when it ſhapens his buds for next years fruit. If at the fall of the leaf, I grant, about that time is the greateſt ſtand, but no deſcent of ſap, which begins ſomewhat before the leaf fall, but not long; therefore at that time muſt be the beſt removing, not by reaſon of deſcent, but ſtay of ſap.

4. The ſap in this courſe hath its profitable and apparent effects; as the growth of the tree, covering of wounds, putting of buds, &c. Whereupon it follows, if the ſap deſcend, it muſt needs have ſome effect to ſhew it.

5. Laſtly, boughs plaſht and laid lower than the root, dye for want of ſap deſcending, except where it is forced by the main ſtream of the ſap, as in top boughs hanging like water in pipes, or except the plaſht-boughs lying on the ground put roots of his own, yea, under boughs, which we commonly call water-boughs

can ſcarcely get ſap to live, yea, in time die, becauſe the ſap doth preſs ſo violently upward, and therefore the faireſt ſhoots and fruits are alwaies in the top.

Remove ſoon. *Object.* If you ſay that many ſo removed thrive; I ſay, That ſomewhat before the fall of the leaf (but not much) is the ſtand; for the fall and the ſtand are not at one inſtant; before the ſtand, is dangerous. But to return.

The ſooner in Winter you remove your ſets, the better; the latter, the worſe; for it is very perillous if a ſtrong draught take your ſets before they have made good their Rooting. A Plant ſet at the fall, ſhall gain (in a manner) a whole years growth of that which is ſet in the Spring after.

The manner of ſetting. I uſe in the ſetting to be ſure that the Earth be mouldy, (and ſomewhat moiſt) that it may run among the ſmall tangles without ſtraining or bruiſing; and as I fill in Earth to his Root, I ſhake the Set eaſily too and fro, to make the earth ſettle the better to his Roots; and withal eaſily with my foot I put in the earth cloſe; for Air is noyſome, and concavities will follow. Some preſcribe Oats to be put in with the Earth: I could like it, if I could know any Reaſon thereof. And they uſe to ſet their Plants with the ſame ſide towards the Sun; but this conceit is like the other. For firſt, I would have every Tree to ſtand ſo free from ſhade, that not onely the Root (which therefore you muſt keep bare from graſs) but body, boughs, and branches, and every ſpray, may have the benefit of the Sun. And what hurt, if that part of the Tree which before was ſhadowed, be now made partakers of the heat of the Sun? In turning of Bees, I know it is hurtful, becauſe it changeth their entrance, paſſage, and whole work, but not ſo in Trees.

Set in the cruſt. Set as deep as you can, ſo that in any wiſe you go not beneath the cruſt. Look Chap. 2.

Moiſture good. We ſpake in the ſecond Chapter of moiſture in general; but now eſpecially having put your removed plant into the Earth, pour on water (of a puddle were good) by diſtilling preſently, and ſo every week twice, in ſtrong drought, ſo long as the earth will drink, and refuſe by over-flowing. For moiſture mollifies, and both gives leave to the Root to ſpread, and makes the earth yield ſap and nouriſhment with plenty and facility. Nurſes,

they,

(they ſay) give beſt and moſt milk after warm drinks.

If your ground be ſuch, that it will keep no moiſture at the Root of your plant, ſuch plants ſhall never like, or but for a time. There is nothing more hurtfull for young trees, then piercing drought. I have known trees of good ſtature, after they have been of divers years growth, and thrive well for a good time, periſh for want of water, and very many by reaſon of taints in ſetting.

Grafts muſt be fenced.

It is meet your ſets and grafts be fenced, till they be as big as your arm, for fear of annoyances. Many wayes may Sets receive damages, after they be ſet, whether grafted or ungrafted. For although we ſuppoſe, that no noyſome beaſt or other thing muſt have acceſs among your trees, yet by caſualty, a Dog, Cat, or ſuch like, or your ſelf, or negligent friend bearing you Company, or a ſhrewd boy, may tread or fall upon a young and tender plant or graft. To avoid theſe and many ſuch chances, you muſt ſtake them round a pretty diſtance from the Set, neither ſo near nor ſo thick, but that it may have the benefit of the Sun, Rain, and Air. Your ſtakes (ſmall or great) would be ſo ſurely put, or driven into the earth, that they break not, if any thing happen to lean upon them, elſe may the fall be more hurtfull then the want of the fence. Let not your ſtakes ſhelter any weeds about your Sets; for want of Sun is a great hinderance. Let them ſtand ſo far off, that your grafts ſpreading receive no hurt, either by rubbing on them, or of any other thing paſſing by. If your ſtock be long, and high grafted, (which I muſt diſcommend, (except in need) becauſe there the ſap is weak, and they are ſubject to ſtrong winds, and the lightings of birds,) tie eaſily with a ſoft liſt three or four pricks under the clay, and let their tops ſtand above the grafts to avoid the lighting of Crows, Pies, &c. upon your grafts. If you ſtick ſome ſharp thorns at the Root of your ſtalks, they will make hurtfull things keep off the better. Other better fences for your grafts I know none. And thus much for ſets and ſetting.

CHAP. VIII.

Of the diſtance of Trees.

I Know not to what end you ſhould provide good ground, well fenced, and plant good ſets, and when your trees ſhould come

to profit, have all your labours loſt, for want of due regard to the diſtance of placing your trees. I have ſeen many trees ſtand ſo thick, that one could not thrive for the throng of his neighbours. If you do mark it, you ſhall ſee the tops of trees rubbed off, their ſide galled like a gall'd horſe back; and many trees have more ſtumps than boughs, and moſt trees not well thriving, but ſhort, ſtumpiſh, and evil thriving boughs; like a Corn-field over-ſeeded, or a Town over-peopled, or a paſture over-laid; which the Gardner muſt either let grow, or leave the tree very few boughs to bear fruit. Hence ſmall thrift, galls, wounds, diſeaſes, and ſhore life to the trees; and, while they live, green little, hard, worm-eaten, and evil thriving fruit ariſe, to the diſcomfort of the owners.

Hurts of too neer planting.

To prevent which diſcommodity, one of the beſt remedies is, the ſufficient and fit diſtance of trees. Therefore at the ſetting of your plants, you muſt have ſuch reſpect, that the diſtance of them be ſuch that every tree be not annoyance, but an help to his fellows; for trees (as all other things of the ſame kind) ſhould ſhroud, and not hurt one another. And aſſure your ſelf, that every touch of trees (as well under as above) is hurtfull: Therefore this muſt be a general rule in this Art, that no tree in an Orchard well ordered, or no bough, nor cyon, drop upon, or touch his fellows. Let no man think this impoſſible, but look in the eleventh Chapter of dreſſing of trees. If they touch, the wind will cauſe a forcible rub. Young twigs are tender, if boughs or arms touch or rub, if they are ſtrong, they make great galls. No kind of touch thereof in trees can be good.

General rule. All touches hurtful.

Now it is to be conſidered what diſtance among Sets is requiſite, and that muſt be gathered from the compaſs and room that each tree by probability will take and fill. And herein I am of a contrary opinion to all them which practiſe or teach the planting of trees, that ever yet I knew, read, or heard of: for the common ſpace between tree and tree, is ten foot, if twenty foot, it is thought very much. But I ſuppoſe twenty yards diſtance is ſmall enough betwixt tree and tree, or rather too little. For the diſtance muſt needs be as far as two trees are well able to overſpread and fill ſo they touch not by one yard at the leaſt. Now I am aſſured, and I know one Apple-tree, ſet of a ſlip *finger great*, in

The beſt diſtance of trees.

in the ſpace of twenty years (which I account a very ſmall part of a trees age, as is ſhewed Chapter 14.) hath ſpread his boughs eleven or twelve yards compaſs; that is, five or ſix yards on every ſide. Hence I gather, that in forty or fifty years, (which yet is but a ſmall time of his age) a tree in good ſoyl, well liking, by good dreſſing (for that is much available to this purpoſe) will ſpread double at the leaſt, *viz.* twelve yards on a ſide; which being added to twelve allotted to his fellow make twenty and four yards, and ſo far diſtant muſt every tree ſtand from another. And look how far a tree ſpreads his boughs above, ſo far doth he put his roots under the earth, or rather further, if there be no ſtop nor let by walls, trees, rocks, barren earth, and ſuch like: for an huge bulk, and ſtrong armes, maſſie boughs, many branches, and infinite twigs, require wide ſpreading Roots. The top hath the vaſt air to ſpread his boughs in, high and low, this way and that way; but the Roots are kept in the cruſt of the earth, they may not go downward, nor upward out of the earth, which is their Element, no more than the Fiſh out of the water, Camelion out of the air, nor Salamander out of the fire. Therefore they muſt needs ſpread far under the earth. And I dare well ſay, If nature would give leave to man, by Art to dreſs the Roots of Trees, to take away the taws, and tangles that lap and fret, and grow ſuperfluouſly and diſorderly, (for every thing *ſublunary* is curſed for man's ſake) the tops above being anſwerably dreſſed, we ſhould have trees of wonderfull greatneſs, and infinite durance. And I perſwade my ſelf that this might be done ſometimes in Winter, to trees ſtanding in fair plains and kindly earth, with ſmall or no danger at all. So that I conclude, that twenty four yards is the leaſt ſpace that Art can allow for trees to ſtand diſtant one from another.

The parts of a Tree.

If you ask me what uſe ſhall be made of that waſte ground betwixt tree and tree: I anſwer, if you pleaſe to plant ſome tree or trees in that middle ſpace, you may; and as your trees grow contiguous, great and thick, you may at your pleaſure take up thoſe laſt trees. And this I take to be the chief cauſe why the moſt trees ſtand ſo thick; for men not knowing (or not regarding) this ſecret of needfull diſtance, and loving fruit

Waſt ground in an Orchard.

fruit of trees planted to their hands, think much to pull up any, though they pine one another. If you or your heirs or succeſſors would take up ſome great trees (paſt ſetting) where they ſtand too thick, be ſure to do it about *Midſomer*, and leave no main Roots. I deſtinate the ſpace of four and twenty yards, for trees of age and ſtature. More then this, you have borders to be made for walks, with Roſes, Berries, &c.

And chiefly conſider, that your Orchard, for the firſt twenty or thirty years, will ſerve you for many Gardens; for Saffron, Licoras, Roots, and other herbs for profit, and flowers for pleaſure: ſo that no ground need be waſted if the Gardiner be skilfull and diligent. But be ſure you come not neer with ſuch deep delving the Roots of your Trees, whoſe compaſs you may partly diſcern, by the compaſs of the tops, if your top be well ſpread. And under the droppings and ſhadow of your Trees, be ſure no herbs will like. Let this be ſaid for the diſtance of Trees.

CHAP. IX.

Of the placing of Trees.

THe placing of Trees in an Orchard is well worth the regard, For although it muſt be granted, that any of our foreſaid Trees (Chap. 2.) will like well in any part of your Orchard, being good and well dreſt earth; yet are not all Trees alike worthy of a good place. And therefore I wiſh that your Fibert, Plumbs, Damſons, Bulleſs, and ſuch like, be utterly removed from the plain ſoyl of your Orchard into your fence: for there is not ſuch fertility and eaſefull growth, as within: and there alſo they are more ſubject to, and can abide the blaſts of *Æolus*. The Cherries and Plums being ripe in the hot time of Summer, and the reſt ſtanding longer, are not ſo ſoon ſhaken as your better fruit, neither, if they ſuffer loſs, is your loſs ſo great. Beſides that, your fences and ditches will devour ſome of your fruit growing in, or near your hedges. And ſeeing the continuance of all theſe (except Nuts) is ſmall, the care of them ought to be the leſs. And make no doubt, but the fences of a large Orchard will contain a ſufficient number of ſuch kind of Fruit-Trees in the whole compaſs. It is not material but at your pleaſure, in the ſaid fences, you may either intermingle your

your ſeveral kinds of fruit trees, or ſet every kind by it ſelf, order doth very well become your better and greater fruit. Let therefore your Apples, Pears, and Quinces, poſſeſs the ſoyl of your Orchard, unleſs you be eſpecially affected to ſome of your other kinds; and of them, let your greateſt trees of growth ſtand further from Sun, and your Quinces at the South ſide or end, and your Apples in the middle: ſo ſhall none be any hindrance to his fellows. The warden-tree, and Winter-pear, will challenge the preeminence for ſtature. Of your Apple-trees, you ſhall find a difference in growth. A good Pippin will grow large, and a Coſtard tree: ſtead them on the North ſide of your other Apples, thus being placed, the leaſt will give Sun to the reſt, and the greateſt will ſhroud their fellows. The Fences and out-trees will guard all.

CHAP. X.

Of Graffing.

NOw are we come to the moſt curious point of our faculty, curious in conceit, but indeed as plain and eaſie as the reſt, when it is plainly ſhewn, which we commonly call Graf- Of Graving or Cirving.

fing

Grafting what. fing or (after ſome) Grafting, I cannot Etymologize or ſhew the original of the Word, except it come of Graving or Carving.

But the thing or matter is: The reforming of the fruit of one tree with the fruit of another, by an artificial tranſplacing or tranſpoſing of a twigg, bud, or leaf, (commonly called a

A Graff. Graft) taken from one tree of the ſame, or ſome other kind, and placed or put to, or into another tree in one time and manner.

Kinds of grafting. Of this there be divers kinds, but three or four now eſpecially in uſe: to wit, Grafting, inciſing, packing on, graſting in the ſcutchion, or inoculating; whereof the chief and moſt uſual is called Grafting, by the general name, *Catexoehen*:) for it is the moſt known, ſureſt, readieſt, and plaineſt way to have ſtore of good fruit.

Graft how. It is thus wrought; You muſt with a fine, thin, ſtrong, and ſharp Saw, made and armed for that purpoſe, cut off a foot above the ground, or thereabouts, in a plain without a knot, or as near as you can without a knot (for ſome ſtocks will be knotty) your Stock, ſet, or plant being ſurely ſtayed with your foot and legg; or otherwiſe ſtraight overthwart (for the Stock may be crooked) and then plain his wound ſmoothly with a ſharp knife: that done, cleave him gently in the middle with a cleaver, and a knock or mall, and with a wedge of Wood, Iron, or Bone, two handfull long at leaſt, put in the middle of that cliſt, with the ſame knock, make the wound gape a ſtraw-breadth wide into which you muſt put your Graffs.

A graft what. The graft is a top twig taken from ſome other tree (for it is a folly to put a graff into his own ſtock) beneath the uppermoſt (and ſometimes in need, the ſecond) knot, and with a ſharp knife fitted in the knot (and ſometimes out of the knot when need is) with ſhoulders an inch downward, and ſo put into the ſtock with ſome thruſting (but not ſtraining) bark to bark inward.

Eyes. Let your graff have three or four eyes for readineſs to put forth, and give iſſue to the ſap. It is not amiſs to cut off the top of your graff, and leave it but five or ſix inches long, becauſe commonly you ſhall ſee the tops of long graffs dye. The reaſon is this, the ſap in graffing receives a rebuke, and cannot work ſo ſtrongly preſently,

ſently, and your graffs receive not ſap ſo readily, as the natural branches. When your graffs are cleanly and cloſely put in, and your wedge pull'd out nimbly, for fear of putting your graffs out of frame, take well tempered morter, ſoundly wrought with chaff, or horſe-dung, (for the dung of Cattle will grow hard, and ſtrain your graffs) the quantity of a Gooſe egge, and divide it juſt, and therewithal cover your ſtock, laying the one half on the one ſide, and the other half on the other ſide of your graffs, (leſt thruſting again your graffs you move them) and let both your hands thruſt at once, and alike, and let your clay be tender, to yield eaſily; and all, leſt you move your graffs. Some uſe to cover the cleft of the ſtock, under the clay, with a piece of bark or leaf, ſome with a ſear-cloth of wax and butter, which as they be not much needful, ſo they hurt not, unleſs that by being buſie about them, you move your graffs from their places. They uſe alſo moſs, tied on above the clay with ſome bryar, wicker, or other bands, theſe profit nothing. They all put the graffs in danger, with pulling and thruſting: for I hold this general Rule in graffing, and planting, if your ſtock and graffs take, and thrive, (for ſome will take and not thrive, being tainted by ſome means in the planting, or graffing) they will (without doubt) recover their wounds ſafely and ſhortly. General Rule

The beſt time of graffing, from the time of removing your ſtock, is the next Spring, for that ſaves a ſecond wound, and a ſecond repulſe of ſap, if your ſtock be of ſufficient bigneſs to take a graff from as big as your thumb, to as big as an arm of a man. You may graff leſs, (which I like) and bigger, which I like not ſo well. The beſt time of the year is in the laſt part of *February* or *March*, or beginning of *April*, when the Sun with his heat begins to make the ſap ſtir more rankly about the change of the Moon, before you ſee any great apparencie of leaf or flowers, but only knots and buds, and before they be proud, though it be ſooner: Cherries, Pears, Apricocks, Quinces, and Plums, would be gathered and grafted ſooner. Time of graffing.

The graffs may be gathered ſooner in *February*, or any time within a month or two before you graff, or upon the ſame day (which I commend) if you get them any time before: for I Gathering of graffs.

have known graffs gathered in *December*, and do well, take heed of drought; I have my ſelf taken a burk, not of a tree, and the ſame day when he was laid in the earth about mid *February*, gathered grafts and put in him, and one of thoſe graffs bore the third year after, and the fourth plentifully; Graffs of old Trees would be gathered ſooner than of young Trees, for they ſooner break and bud. If you keep graffs in the earth, moiſture with the heat of the Sun will make them ſprout as faſt, as if they were growing on the tree. And therefore, ſeeing keeping is dangerous, the ſureſt way (as I judge) is, to take them within a week of the time of your grafting.

Graffs of old Trees.

Where taken.

The graft would be taken not of the proudeſt twigs, for it may be your ſtock is not anſwerable in ſtrength. And therefore (ſay I) the grafts brought from South to us in the North, although they take and thrive, (which is ſomewhat doubtful, by reaſon of the difference of the clime and carriage,) yet ſhall they in time faſhion themſelves to our cold Northern Soil, in growth taſte, &c.

Nor of the pooreſt; for want of ſtrength may make them unready to receive ſap, (and who can tell but a poor graft is tainted) nor on the outſide of your Tree, for where ſhould your tree ſpread, but in the middeſt; for there you may be ſure your Tree is no whit hindered in his growth or form. He will ſtill recover inward, more than you could wiſh. If your clay cliſt in Summer with drought, look well in the chinks for Emmets, and Earwigs, for they are cunning and cloſe thieves about grafts; you ſhall find them ſtirring in the morning and evening, and the rather in the moiſt weather: I have had many young buds of Graffs, even in the flouriſhing, eaten with Ants. Let this ſuffice for graffing, which is in the faculty counted the chief ſecret, and becauſe it is moſt uſual, it is beſt known.

Emmets,

Graffs are not to be diſliked for growth, till they wither, pine, and die. Uſually before *Midſummer* they break, if they live. Some (but few) keeping proud and green, will not put till the ſecond year, ſo is it to be thought of Sets.

The firſt ſhew of putting is no ſure ſigne of growth, it is but the ſap the graff brought with him from his Tree.

So ſoon as you ſee the graft put forth growth, take away the clay, for then doth neither the ſtock nor the graft need it, (put a little

little freſh well tempered clay in the hole of the ſtock) for the clay is now tender, and rather keeps moiſture than drought.

The other ways of changing the natural Fruit of Trees, are more curious than profitable, and therefore I mind not to beſtow much labour or time about them, only I ſhall make known what I have proved, and what I do think.

And firſt, of Inciſing, which is the cutting of the bark of the boal, a Rine or Branch of a Tree at ſome bending, or knee ſhoulderwiſe with two gaſhes, only with a ſharp knife to the wood; then take a wedge, the bigneſs of your graff, ſharp ended, flat on the one ſide, agreeing with the Tree, and round on the other ſide, and with that being thruſt in, raiſe your bark, then put in your graff, faſhioned like your wedge juſt: and laſtly, cover your wound, and faſt it up, and take heed of ſtraining. This will grow but to ſmall purpoſe, for it is weak hold, and lightly it will be under growth. Thus you may graft betwixt the bark and the tree of a great ſtock, that will not eaſily be clifted. But I have tried a better way for great trees, *viz.* Firſt, cut him off ſtraight, and cleanſe him with your knife, then cleave him into four quarters equally with a ſtrong cleaver; then take for every clift, two or three ſmall (but hard) wedges, juſt of the bigneſs of your graft, and with thoſe wedges driven in with a hammer, open the four clifts ſo wide, (but no wider) that they may take your four graffs with thruſting, not with ſtraining. And laſtly, cover and clay it cloſely, and this is a ſure & good way of grafting: or thus, clift your ſtock by his edges twice or thrice with your cleaver, and open him with your wedge in every clift one by one, and put in your graff, and then cover them: This may do well.

Inciſing.

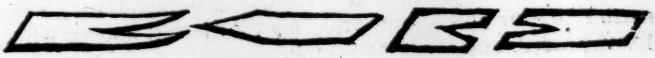
A great ſtock.

Packing on, is, when you cut aſlope, a twig of the ſame bigneſs with your graft, either in or beſides the knot, two inches long, and make your graft agree jump with the cyon, and gaſh your graft and your cyon in the middeſt of the wound, length-way, a ſtraw breadth deep, and thruſt the one into the other, wound to wound, ſap to ſap, bark to bark, then tie them cloſe, and clay them: This may do well. The faireſt graft I have in my little Orchard, which I have planted, is thus packt on, and the branch whereon I put him, is in his plentiful Root.

Packing thus.

To be ſhort in this point, cut your graft in any ſort or faſhion

two inches long, and joyn them cleanly, and close to any other sprig of any Tree in the latter end of the time of grafting, when sap is somewhat rise, and in all probility, they will close and thrive: thus,



The sprig. *The graft.* *The twig.* *The graft.*

Or any other fashion you think good.

Innoculating. Innoculating is an eye, or bud, taken bark and all from one Tree, and placed in the room of another eye or bud of another; cut both of one compass, and their bound. This must be done in Summer when the sap is proud.

Grafting in Scutcheon. Much like unto this, is, that they call grafting in the Scutcheon, they differ thus: That here you must take an eye with his leaf, or (in mine opinion) a bud with his leaves. (Note that an eye is for a cyon, a bud is for flowers and fruit) and place them on another Tree, in a plain, (for they so teach) the place, or bark, where you must set it, must be thus cut with a sharp knife, and the bark raised with a wedge, and then the eye or bud put in, & so bound up, I cannot deny but such may grow. And your bud if he take, will flower, and bear fruit in that year, as some grasts, and sets also, being set for blooms. If these two kinds thrive, they reform but a spray, and an undergrowth. Thus you may place Roses, or Thorns, and Cherries on Apples, and such like. Many write much more of grafting, but to small purpose; whom we leave to themselves, and their followers, and ending this secret, we come in the next Chapter to a point of knowledge, most requisite in an Arborist, as well for all other Woods, as for an Orchard.

CHAP. II.

Of the right dressing of Trees.

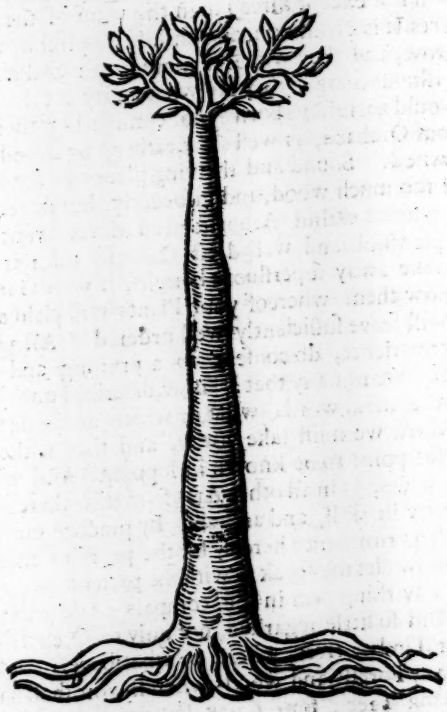
Necessity of dressing trees. IF all these things aforesaid were indeed performed, as we have shew'd them in words, you should have a perfect Orchard, nature and substance, begun to your hand: and yet are all these things nothing, if you want that skill to keep and dress your Trees. Such is the condition of all earthly things, whereby a man receiveth profit, or pleasure, that they degenerate presently.

ly without good ordering. Man himſelf, left to himſelf, grows from his heavenly and ſpiritual generation, and becometh beaſtly, yea, deviliſh to his own kind, unleſs he be regenerate. No marvel then, if Trees make their ſhoots, and put their ſprays diſorderly. And truly (if I were worthy to judge) there is not a miſchief that breedeth greater and more general harm to all the Orchard, (eſpecially, if they be any continuance) that ever I ſaw, (I will not except three) than the want of the skilful dreſſing of trees. It is a common, and unskilful opinion, and ſaying, Let all grow, and they will bear more fruit: and if thou lop away ſuperfluous boughs, they ſay, what a pity is this? how many Apples would theſe have born? not conſidering, there may ariſe hurt to your Orchard, as well (nay, rather) by abundance, as by want of wood. Sound and thriving plants in a good ſoil will ever yield too much wood, and diſorderly, but never too little; So that a painful skilful Arboriſt need never want matter to effect a plentiful and well-dreſt Orchard; for it is an eaſie matter to take away ſuperfluous boughs, (if your Gardiner have skill to know them) whereof your Plants will yield abundance, and skill will leave ſufficiently well ordered. All ages, both by rule and experience, do conſent to a pruning and lopping of Trees: yet have not any that I know, deſcribed unto us, (except in dark and general words) what, or which, are thoſe ſuperfluous boughs, which we muſt take away, and that is the chief and moſt needful point to be known in lopping. And we may well aſſure our ſelves, (as in all other Arts, ſo in this) there is a vantage and dexterity in skill, and an habit by practice out of experience, in the performance hereof, for the profit of mankind; yet do not I know (let me ſpeak it with the patience of our cunning Arboriſts) any thing within the compaſs of humane affairs ſo neceſſary, and ſo little regarded, not only in Orchards, but alſo in all other Timber-trees, where, or whatſoever. General rule.

How many Foreſts, and woods, wherein you ſhall have for one lively thriving Tree, four (nay, ſometimes twenty four) evil thriving, rotten, and dying Trees, even while they live? and in ſtead of trees, thouſands of buſhes and ſhrubs? What rottenneſs, what hollowneſs, what dead arms, withered tops, curtalled trunks? what loads of moſſes, drooping boughs, and dying branch- Timber-wood evil dreſt.

branches you ſhall ſee every where? And thoſe that are like in this ſort, are in a manner all unprofitable boughs, cankered arms, crooked, little and ſhort boals; what an infinite number of buſhes, ſhrubs, and skrogs of hazels, thorns, and other profitable wood, which might be brought by dreſſing to become great and goodly trees? Conſider now the cauſe: The leſſer wood hath been

The cauſe of hurts in woods.



Imagine the Root to be ſpread far wider.

ſpoyled with careleſs, unskilful, and untimely ſtowing, and much alſo of the great wood. The greater trees at the firſt riſing have filled, and over-laden themſelves with a number of waſtfull boughs

boughs and ſuckers, which have not only drawn the ſap from the boal, but alſo have made it knotty, and themſelves and the boal moſſie for want of dreſſing; whereas, if in the prime of growth they had been taken away cloſe, all but one top (according to this pattern) and clean by the bulk, the ſtrength of all the ſap ſhould have gone to the bulk, and ſo he would have recovered, and covered his knots, and have put forth a fair, long, and ſtraight body, (as you ſee) for timber profitable, huge, great of bulk, and of infinite laſt. Dreſs Timber Trees- how.

If all Timber-trees were ſuch, (will ſome ſay) how ſhould we have crooked wood for wheels, *&c?*

Anſw. Dreſs all you can, and there will be enough crooked for thoſe uſes.

More then this, in moſt places, they grow ſo thick, that neither themſelves, nor earth, nor any thing under or near them can thrive, nor Sun, nor Rain, nor Air can do them, nor any thing near or under them, any profit or comfort.

I ſee a number of Hags, where, out of one Root you ſhall ſee three or four, (nay, more, ſuch is mens unskilful greedineſs, who deſiring many, have none good) pretty Oaks, or Aſhes, ſtraight and tall; becauſe the Root at the firſt ſhoot gives ſap amain: but if one only of them might be ſuffered to grow, and that well and cleanly pruned, all to his very top, what a Tree ſhould we have in time? And we ſee by thoſe Roots, continually and plentifully ſpringing, notwithſtanding ſo deadly wounded, what a commodity ſhould ariſe to the owner, and the Commonwealth, if wood were cheriſhed, and orderly dreſſed.

The waſte boughs cloſely and skilfully taken away, would give us ſtore of fences and fuel, and the bulk of the Tree in time would grow of huge length and bigneſs. But here (me-thinks) I hear an unskilful Arboriſt ſay, That Trees have their ſeveral forms, even by nature, the Pear, the Holly, the Aſpe, *&c.* grow long in bulk, with few and little arms, the Oak by nature, broad, and ſuch like. All this I grant, but grant me alſo, that there is a profitable end and uſe of every Tree, from which if it decline, (though by nature) yet man by art may (nay, muſt) correct it. Now other end of Trees, I could never learn, than good Timber, fruit much and good, and pleaſure, uſes Phyſical hinder nothing good form. Profit of trees dreſſed. The end of Trees.

Nei-

Trees will take any form

Neither let any man ſo much as think, that it is unprofitable, much leſs unpoſſible, to reform any Tree of what kind ſoever: For (believe me) I have tried it, I can bring any tree (beginning betimes) to any form. The Pear and Holly may be made to ſpread, and the Oak to cloſe.

But, why do I wander out of the compaſs of mine Orchard, into the Forreſts and Woods? Neither yet am I from my purpoſe, if boals of timber-trees ſtand in need of all the ſap, to make them great and ſtreight, (for ſtrong growth and dreſſing makes ſtrong trees) then it muſt be profitable for fruit, (a thing more immediately ſerving a man's need) to have all the ſap his Root can yield: for as timber, ſound, great, and long, is the *good of Timber-trees*, and therefore they bear no fruit of worth: ſo fruit, good, ſound, pleaſant, great and much, is the Fruit-trees end. That Gardiner therefore, ſhall perform his duty skilfully and faithfully, which ſhall ſo dreſs his Trees, that they may bear ſuch and ſuch ſtore of fruit, which he ſhall never do, (I dare undertake) unleſs he keep this order in dreſſing his Trees.

The end of Trees.

How to dreſs a Fruit-tree.

A Fruit-tree ſo ſtanding, that there need none other end of dreſſing but fruit, (not Ornaments, nor Walks, nor delight to ſuch as would pleaſe their eye only, and yet the beſt form cannot but both adorn and delight) muſt be parted from within two foot or thereabouts of the earth, ſo high to give liberty to dreſs his Root, and no higher, for drinking up the ſap that ſhould feed his fruit, for the boal will be firſt, and beſt ſerved and fed, becauſe he's next the Root, and of greateſt wax and ſubſtance, and that makes him longeſt of Life, into two, three, or four arms, as your ſtock or graffs yield twigs, and every arm into two or more branches, and every branch into his ſeveral cyons; ſtill ſpreading by equal degrees, ſo that his loweſt ſpray be hardly without the reach of a man's hands, & his higheſt be not paſt two yards higher, rarely, (eſpecially in the middeſt) that no one twig touch his fellow. Let him ſpread as far as he liſt, without his maſter-bough, or lop equally. And when any bough doth grow ſadder, and fall lower than his fellows, (as they will with weight of Fruit) eaſe him the next ſpring of his ſuperfluous twigs, and he will riſe; when any bough or ſpray ſhall amount above the reſt, either ſnub his top with a nip betwixt

twixt your finger and your thumb, or with a sharp knife and take him clean away, and so you may use any Cyon you would reform; and as your tree grows in stature, and in strength, so let him rise with his tops but slowly, and early, especially in the midest, and equally, and in breadth also; and follow him upward with lopping his under-growth and water boughs, keeping the same distance of two yards, but not above three in any wise, betwixt the lowest and the highest twigs.

Benefits of good dressing.

1. Thus you shall have well liking, clean-skin'd, healthfull, great, and long-lasting trees.

Remedy.

2. Thus shall your tree grow low, and safe from winds, for his top will be great, broad, and weighty.

3. Thus growing broad, shall your trees bear much fruit (I dare say) one as much as six of your common trees, and good without shadowing, dropping and fretting; for his boughs, branches, and twigs shall be many, and those are they (not the boal) which bear fruit.

4. Thus shall your boal being little (not small, but low) by reason of his shortness, take little, and yield much sap to fruit.

5. Thus your trees by reason of strength in time of setting shall put forth more blossoms and more fruit, because free from taints (for strength is a great help to bring forth much) and safely, whereas weakness fails in setting, though the season be calm.

Some use to bare trees Roots in Winter, to stay the setting till hotter seasons, which I discommend, because

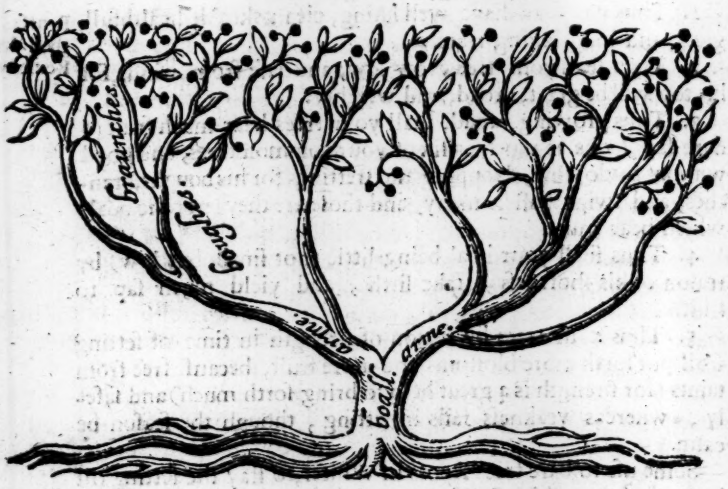
1. They hurt the Roots.
2. It stays nothing at all.
3. Though it did, being small, with us in the North they have their part of our *April* and *May* Frosts.
4. Hinderance cannot profit weak trees in setting.
5. They waste much labour.
6. Thus shall your tree be easie to dress, and without danger, either to the tree or the dresser.
7. Thus may you safely and easily gather your fruit without falling, bruising, or breaking of Cyons.

This is the best form of a fruit-tree, which I have here shadowed

dowed out for the better capacity of them that are led more with the eye, then the mind, craving pardon for the deformity, becauſe I am nothing skilful either in the painting or carving.

Imagine that the paper makes but one ſide of the tree to appear, the whole round compaſs will give leave for many more arms, boughs, branches, and cyons.

The perfect form of a Fruit-Tree.



If any tree cannot well be brought to this form: *Experto crede Roberto*, I can ſhew divers of them under twenty years of age.

The fitteſt time of the Moon for prooning, is, as of grafting, when the ſap is ready to ſtir (not proudly ſtirring) and ſo to cover the wound: and of the year, a month before (or at leaſt when) you graff. Dreſs Pears, Apricocks, Peaches, Cherries, and Bullis ſooner. And old trees before young plants, you may dreſs at any time betwixt Leaf and Leaf. And note, where you take any thing away, the ſap the next Summer will be putting: Be ſure therefore when he puts a bud in any place where you would not have him, rub it off with your finger.

And

And here you muſt remember the common homely proverb : Dreſſing betime.

Soon crooks the tree
That good Camrel muſt be.

Begin betimes with trees, and do what you liſt: but if you let them grow great and ſtubborn, you muſt do as the tree liſt. They will not bend but break, nor be wound without danger. A ſmall branch will become a bough, and a bough an arm in bigneſs. Then if you cut him, his wound will feſter, and hardly without good skil recover: therefore, *Obſta principiis*. Of ſuch wounds, and leſſer, or any bough cut off a handfull or more from the body, comes hollowneſs, and untimely death. And therefore when you cut, ſtrike cloſe, and clean, and upward, and leave no bunch. Faults of evil dreſt trees, and the remedy.

This form in ſome caſes ſometimes may be altered: If your tree, or trees, ſtand near your walks, if it pleaſe your fancy more, let him not break till his boal be above your head; ſo may you walke under your trees at your pleaſure. Or if you ſet your fruit trees for your ſhades in your Groves, then I reſpect not the form of the tree, but the comelineſs of the walk. The form altereth.

All this hitherto ſpoken of dreſſing, muſt be underſtood of young plants, to be formed: it is meet ſomewhat be ſaid for the inſtruction of them that have old trees already formed, or rather deformed: for *Malum non vitatur niſi cognitum*. The faults therefore of a diſordered tree, I find to be five. Dreſſing of old trees.

1. An unprofitable boal.
2. Water boughs.
3. Fretters.
4. Suckers. And,
5. One principal top.

Faults are five, and their remedies.

A long boal asketh much feeding, and the more he hath the more he deſires, and gets, (as a drunken man drink, or a covetous man wealth,) and the leſs remains for the fruit; he puts his boughs into the air, and makes them, the fruit and it ſelf more dangered with winds; for this I know no remedy, after that the tree is come to growth; once evil, never good. Long boal. No remedy.

Water boughs, or under growth, are ſuch boughs as grow low under others, and are by them over-grown, over-ſhadowed, dropped on, and pin'd for want of plenty of ſap, and by that 1. Water boughs.

means in time dye, for the ſap preſſeth upward: and it is like water in her courſe, where it findeth moſt iſſue, thither it floweth, leaving the other leſs ſluces dry, even as wealth to wealth, and much to more. Theſe ſo long as they bear, they bear leſs, worſe and fewer fruit, and wateriſh.

Remedy. The remedy is eaſie, if they be not grown greater than your arm, lop them cloſe and clean, and cover the middle of the wound; the next Summer when he is dry, with a Salve made of tallow, tarr, and a very little pitch, good for the covering of any ſuch wound of a great tree: unleſs it be bark pild, and then

Bark pil'd, and the remedy. a ſear-cloth of freſh butter, honey and wax preſently (while the wound is green) applyed, is a ſoveraign remedy, in ſummer eſpecially. Some bind ſuch wounds with a thumb Rope of hay, moiſt, and rub it with dung.

Fretters. Fretters are, when as by negligence of the Gardner, two or more parts of the tree, or of divers trees, as arms, boughs, branches, or twigs, grow ſo near and cloſe together, that one

Touching. of them by rubbing doth wound one another. This fault of all other ſhews the want of skill (or care at leaſt) in the arboriſt: for here the hurt is apparent, and the remedy eaſie, ſeen to betimes: galls are wounds incurable, but by taking away thoſe members, for let them grow, and they will be worſe and worſe, and ſo kill themſelves with civil ſtrife for Roomth, and danger the whole

Remedy. tree. Avoid them betime therefore, as a Common-wealth doth boſome enemies.

Suckers. A Sucker is a long, proud, and diſorderly Cyon, growing ſtreight up (for pride of ſap makes proud, long, and ſtreight growth) out of any lower parts of the tree, receiving a great part of the ſap, and bearing no fruit, till it have tyrannized over the whole tree. Theſe are like idle and great Drones amongſt Bees; and proud and idle members in a Common-Wealth.

The Remedy of this is, as of water boughs, unleſs they be grown greater than all the reſt of the boughs; and then your Gardner (at your diſcretion) may leave him for his boal, and take away all, or the moſt of the reſt. If he be little ſlip him, and ſet him, perhaps he will take: my faireſt Apple-tree was ſuch a ſlip.

One principal top or bough, and Remedy. One or two principal top boughs are as evil in a manner as ſuckers; they riſe of the ſame cauſe, and receive the ſame Remedy:

medy: yet theſe are more tolerable, becauſe theſe bear fruit, yea, the beſt; but Suckers of long time do not bear.

I know not how your tree ſhould be faulty, if you reform all your vices timely, and orderly. As theſe Rules ſerve for dreſſing young trees, and ſets in the firſt ſetting, ſo may they well ſerve to help old trees, though not exactly to cure them.

The inſtruments fitteſt for all theſe purpoſes, are moſt commonly, for the greateſt trees, an handſome, long, light Ladder of Firpole, a little, nimble, and ſtrong armed Saw, and ſharp. For leſs trees, a little and ſharp hatchet, a broad mouthed Chefel, ſtrong and ſharp, with an hand beetle, your ſtrong and ſharp Clever, with a knock, and (which is a moſt neceſſary inſtrument amongſt little trees) a great haſted and ſharp knife or whittle. And as needful is a Stool on the top of the Ladder of eight or more rungs, with two back feet, whereon you may ſafely, and eaſily ſtand to graff, to dreſs, and to gather fruit, thus formed. The feet may be faſt wedged in, but the Ladder muſt hang looſe with two bands of Iron: and thus much of dreſſing trees for fruit, formally to profit. Inſtruments for dreſſing.

CHAP. XII.

Of Soyling.

THere is one thing yet very neceſſary for to make your Orchard both better, and more laſting: Yea, ſo neceſſary, that without it your Orchard cannot laſt, nor proſper long, which is neglected generally both in precepts and in practice, *viz.* manuring with ſoyl: whereby it hapneth that when trees (amongſt other evils) through want of fatneſs to feed them, become moſſie, and in their growth are evil (or not thriving) it is either attributed to ſome wrong cauſe, as age (when indeed they are but young) or evil ſtanding (ſtand they never ſo well) or ſuch like, or elſe the cauſe is altogether unknown, and ſo not amended. Neceſſity of ſoyling.

Can there be deviſed any way by nature, or art, ſooner or lier to ſuck out, and take away the heart of earth, then by great trees; ſuch great bodies cannot be ſuſtained without great ſtore of ſap: what living body have you greater then of Trees: the great Sea monſters (whereof one came to land at *Treſemouth* Trees great Suckers.

in

in *Yorkshire*, hard by us, 18 yards in length, and near as much in compass) seem hideous, huge, strange, and monstrous, because they be indeed great, but especially, because they are seldom seen: but a tree liking, come to his growth and age, twice that length, and of a bulk never so great, besides his other parts, is not admired, because he is so commonly seen. And doubt not, but if he were well regarded from his kernel, by succeeding ages to his full strength, the most of them would double their measure. About fifty years ago, I heard by credible and constant reports, That in *Brookham*-Park in *Westmerland*, neer unto *Penrich*, there lay a blown Oak, whose trunk was so big, that two Horse-men being the one on the one side, and the other on the other side, they could not see one another; to which, if you add his arms, boughs, and roots, and consider of his bigness, what would he have been, if preserved to the vantage? Also I read in the History of the *West-Indians*, out of *Peter Martyr*, that sixteen men taking hands one with another, were not able to fathom one of those trees about. Now nature having given to such, a faculty by large and infinite Roots, taws and tangles, to draw immediately his sustenance from our common mother the earth (which is like in this point to all other mothers that bear) hath also ordained that the tree over-laden with fruit, and wanting sap to feed all she hath brought forth, will wean all she cannot feed, like women bringing forth more Children at once than she hath teats. See you not how trees, especially, by kind being great, standing so thick and close, that they cannot get plenty of sap, pine away all the grass, weeds, lesser shrubs and trees, yea, and themselves also, for want of vigour of sap? so that trees growing large, sucking the soyl whereon they stand continually and amain, and the foizon of the earth that feeds them decaying (for what is there that wastes continually, that shall not have an end?) must either have supply of sucking, or else leave thriving and growing. Some grounds will bear Corn while they be new, and no longer, because their crust is shallow, and not very good, and lying they scind and wash and become barren. The ordinary Corn soyls continue not fertile, without fallowing and soyling, and the best requires supply even for the little body of Corn. How then can we think that a-

ny

ny Ground, how good soever, can sustain bodies of such greatness, and such great feeding, without great plenty of sap arising from good earth? This is one of the chief causes why so many of our Orchards in *England* are so evil thriving when they come to growth, and our fruit so bad. Men are loath to bestow much ground, and desire much fruit, and will neither set their trees in sufficient compass, nor yet feed them with manure. Therefore of necessity Orchards must be soyled.

The fittest time is, when your trees are grown great, and have near hand spread your earth, wanting new earth to sustain them, which if they do, they will seek abroad for better earth; and shun that which is barren (if they find better) as cattle evil pasturing. For nature hath taught every creature to desire and seek his own good, and to avoid hurt. The best time of the year is at the fall, that the frost may bite and make it tender, and the Rain wash it into the Roots. The Summer-time is perilous if ye dig, because the sap stirs amain. The best kind of Soyl is such as is fat, hot, and tender. Your earth must be lightly opened, that the Dung may go in, and wash away; and but shallow, lest you hurt the Roots; and in the spring, closely and equally made plain again for fear of Suckers. I could wish, that after my trees have fully possessed the soyl of mine Orchard, that every seven years at least, the soyl were bespread with dung half a foot thick at least. Puddle water out of the Dunghil poured out plentifully, will not only moisten but fatten exceedingly in *June*, and *July*. If it be thick and fat, and applied every year, your Orchard shall need none other soyling. Your ground may lie so low at the River side, that the flood standing some days and nights thereon, shall save you all this labour of soyling.

CHAP. XIII.

Of Annoyances.

A Chief help to make every thing good, is to avoid the evil thereof: you shall never attain to that good of your Orchard you look for, unless you have a Gardiner that can discern the diseases of your trees, and other annoyances of your Orchard, and find out the causes thereof, and know and apply fit Remedies for the same. *For be your ground such plants and trees as you would wish, and if they be wasted with hurtful things, what*

have

have you gained, but your labour for your travel? It is with an Orchard and every tree, as with man's body. The best parts of Physick for preservation of health, is to foresee and cure diseases.

Two kinds of evils in an Orchard.

All the diseases of an Orchard are of two sorts, either internal, or external. I call those inward hurts which breed on, and in, particular trees.

1 Galls,
2 Canker.
3 Moss.
4 Weakness in setting.
5 Bark bound.
6 Bark pil'd.
7 Worm.
8 Deadly wounds.

Galls.

Galls, Cankers, Moss, Weakness, though they be divers diseases, yet (howsoever authors think otherwise) they rise all out of the same cause.

Galls we have described with their cause and remedy, in the eleventh Chapter under the name of fretters.

Canker.

Canker is the consumption of any parts of the tree bark and wood; which also in the same place is deciphered under the title of water-boughs.

Moss.

Moss is sensible seen and known of all, the cause is pointed out in the same Chapter, in the discourse of timber-wood, and partly also the remedy: but for Moss add this, that any time in summer (the Spring is best, when the cause is removed) with an Hair cloth immediately after a shower of rain, rub off your Moss, or with a piece of wood (if the moss abound) formed like a great knife.

Weakness in setting.

Weakness in the setting of your fruit shall you find there also in the same Chapter, and his remedy. All these flow from the want of Room th in good soyl, wrong planting, Chapter seven, and evil, or no dressing.

Bark bound.

Bark bound as I think riseth of the same cause, and the best and present remedy (the causes being taken away) is with your sharp knife in the spring, length way to launce his bark thorow-out 3 or 4 sides of his boal.

Worm.

The disease called the worm is thus discerned: the bark will be hollow in divers places like gall; the wood will dye and dry, and you shall see easily the bark swell: it is verily to be thought that therein is bred some Worm. I have not yet thoroughly sought it out, because I was never troubled therewithall; but only

onely have ſeen ſuch trees in divers places: I think it a Worm rather, becauſe I ſee this diſeaſe in trees, bringing fruit of ſweet taſte, and the ſwelling ſhews as much. The remedy, (as I conjecture) is, ſo ſoon as you perceive the wound, the next Spring cut it out, bark and all, and apply Cows piſs and vinegar preſently, and ſo twice or thrice a week, for a months ſpace: For I well perceive, if you ſuffer it any time, it eats the Tree or Bough round, and ſo kills. *Since I firſt wrote this Treatiſe, I have changed my mind concerning the diſeaſe called the Worm, becauſe I read in the Hiſtory of the Weſt-Indians, that their Trees are not troubled with the diſeaſe called the Worm, or Canker, which ariſeth of a raw and evil concocted humour, or ſap. Witneſs* Pliny, *by reaſon the Country is more hot then ours; wherefore I think the beſt remedy is, (not diſallowing the former, conſidering that the Worm may breed by ſuch an humour) warm ſtanding, ſound lopping, and good dreſſing.*

Bark-pill'd, you ſhall find with his remedy, in the eleventh Chapter.

Deadly wounds are, when a man's *Arboriſt* wanting skil, cuts off arms, boughs or branches an inch, or (as I ſee ſometimes) an handfull, or half a foot or more from the body: *Theſe ſo cut, cannot cover in any time with ſap, and therefore they dye, and dying they periſh the heart, and ſo the tree becomes hollow, and with ſuch a deadly wound cannot live long.* Wounds. Remedy.

The remedy is, if you find him before he be periſhed, cut him cloſe, as in the 11. Chapter: If he be hoal'd, cut him cloſe, fill his wounds though never ſo deep, with morter well tempered, and ſo cloſe at the top his wound with a Sear-cloth nailed on, that no Air nor Rain approach his wound. If he be very old, and declining, he will recover; and the hole being cloſed, his wound within ſhall not hurt him for many years.

Hurts on your trees are chiefly, Ants, Earwigs, and Caterpillars. Of Ants, and Earwigs, is ſaid, chap. 10. *Let there be no ſwarm of piſ-mire neer your tree roots, no, not in your Orchard: turn them over in a froſt, and pour in water, and you kill them.*

For *Caterpillars*, the vigilant Fruiterer ſhall ſoon eſpy their lodging by their web, or the decay of leaves eaten round about them: And being ſeen, they are eaſily deſtroyed with your hand,

or rather (if your tree may ſpare it) take ſprig and all: for the red ſpeckled Butter-fly doth ever put them, being her ſperm, among the tender ſprays for better feeding, eſpecially in drought: and tread them under your feet. I like nothing of ſmoak among trees. Unnatural heats are nothing good for natural trees. *This, for Diſeaſes of particular trees.*

External hurts are either things natural, or artificial. Natural things, externally hurting Orchards.

I Beaſts.
1 Deer.
2 Goats.
3 Sheep.
4 Hare.
5 Cony.
6 Cattel.
7 Horſe.

II Birds.
1 Bulfinch.
2 Thruſh.
3 Black-bird.
4 Crow.
5 Pye,
&c.

The other things are.

1 Winds.
2 Cold.
3 Trees.
4 Weeds.
5 Worms.
6 Moles.
7 Filth.
8 Poyſonful ſmoak.

External wilful evils are theſe.

1 Walls.
2 Trenches.
3 Other works noiſome, done in or near your Orchard.
4 Evil Neighbours.
5 A careleſs Maſter.
6 An undiſcreet, negligent, or no keeper.

See you here an whole Army of miſchiefs banded in troops, againſt the moſt fruitful trees the earth bears? aſſailing your good labours. Good things have moſt enemies.

Remedy. A skilful Fruiterer muſt put to his helping hand, and disband, and put them to flight.

Deer, &c. For the firſt rank of beaſts, beſides your out-ſtrong fence, you muſt have a fair and ſwift Grey-hound, a Stone-bow, Gun, and if

if need require, an Apple with an hook for a Deer, and an Hare-pipe for an Hare.

Your Cherries, and other Berries, when they be ripe, will draw all the Black-birds, Thruſhes, and Mag-pies, to your Orchard. Birds. The Bul-finch is a devourer of your fruit in the bud, I have had whole Trees ſhall'd out with them in Winter time.

The beſt remedy here is a Stone-bow, a Piece, eſpecially if you have a muſket, or ſparrow-hawk in winter, to make the Black-bird ſtoop into a buſh, or hedge.

The Gardner muſt cleanſe his ſoil of all other trees, but fruit-trees, as aforeſaid, *chap.* 2. for which it is ordained; and I would eſpecially name Oaks, Elms, Aſhes, and ſuch other great wood, but that I doubt it would be taken as an admiſſion of leſſer trees; for I admit of nothing to grow in my Orchard but fruit and flowers: if ſap can hardly be good to feed our fruit-trees, ſhould we allow of any other? eſpecially thoſe that will become their Maſters, and wrong them in their lively-hood?

And though we admit without the fence, of wall-nuts in moſt plain places, Trees middle-moſt and Aſhes, or Oaks, or Elms ut-moſt, ſet in comely rows equally diſtant, with fair Allies twixt row and row, to avoid the boiſterous blaſts of winds, and within them alſo others for bees, yet we admit none of theſe into your Orchard plat: other remedies then this have we none againſt the nipping froſt. Winds. Froſts.

Weeds in fertile ſoil, (becauſe the general courſe is ſo) till your trees grow great, will be noiſome, and deform your allies, walks, beds, and ſquares; your under gardeners muſt labour to keep all cleanly, and handſome from them, and all other filth, with a ſpade, weeding knives, rake with Iron teeth, a ſcraple of Iron thus formed. Weeds.

For Nettles, and ground Ivy after a ſhowr.

When weeds, ſtraw, ſticks, and all other ſcrapings are gathered together, burn them not, but bury them under your cruſt in any place of your Orchard, and they will dye, and fatten your ground.

Worms. Moals.

Worms and Moals open the earth, and let in air to the Roots of your trees, and deform your ſquares and walks; and feeding in the earth, being in number infinite, draw on barrenneſs.

Remedy.

Worms may eaſily be deſtroyed. Any Summer evening, when it is dark, after a ſhowr with a candle you may fill buſhels; but you muſt tread nimbly, and where you cannot come to catch them, ſo ſift the earth with coal-aſhes an inch or two thickneſs, and that is a plague to them, ſo is ſharp gravel.

Moals will anger you if your Gardiner or ſome other moal-catcher eaſe you not; eſpecially, having made their fortreſſes among the Roots of your Trees; you muſt watch her well with a Moal-ſpear, at morning, noon, and night: when you ſee her utmoſt hill, caſt a trench betwixt her and her home, for ſhe hath a principal manſion to dwell and breed in about *April*, which you may diſcern by a principal hill, wherein you may catch her, if you trench it round, and ſure, and watch well; or whereſoever you can diſcern a ſingle paſſage, (for ſuch ſhe hath) there trench, and watch, and have her.

Wilfull annoyances muſt be prevented, and avoided by the love of the Maſter, and Fruiterer, which they bear to their Orchard.

Juſtice and liberality will put away evil neighbours, or evil neighbour-hood. And then, (if God bleſs and give ſucceſs to your labours) I ſee not what hurt your Orchard can ſuſtain.

CHAP. XIV.

The age of Trees.

IT is to be conſidered, All this treatiſe of Trees tends to this end, that men may love and plant Orchards, whereunto there cannot be a better inducement then that they know, (or at leaſt be perſwaded) that all the benefit they ſhall reap thereby, whether of pleaſure, or profit, ſhall not be for a day, or a month, or one, or many, but many hundred years. Of good things, the greateſt, and moſt durable, is always the beſt. If therefore, out of reaſon, grounded upon experience, it be made (I think) manifeſt, but I am ſure profitable, that a fruit-tree in ſuch a ſoyl and

and ſite, as is deſcribed, ſo planted and trimmed, and kept as is afore appointed, and duly ſoiled, ſhall dure a thouſand years: Why ſhould not we take pains, and be at two or three years charges, (for under ſeven years will an Orchard be perfected for the firſt planting, and by that time be brought to fruit) to reap ſuch a commodity, and ſo long laſting? The age of Trees.

Let no man think this to be ſtrange, but peruſe, and conſider the reaſon. I have Apple-trees ſtanding in my little Orchard, which I have known theſe forty years, whoſe age before my time I cannot learn, it is beyond my memory, though I have inquired of divers aged men of 80 years and upwards: Theſe trees, although come into my poſſeſſion very ill ordered, and miſhapen, and one of them wounded to his heart, and that deadly, (for I know it will be his death) with a wound, wherein I might have put my foot into the heart of his bulk, (now it is leſs) notwithſtanding, with that ſmall regard they have had ſince; they ſo like, that I aſſure my ſelf they are not come to their growth by more than two parts of three, which I diſcern not only by their own growth, but alſo by comparing them with the bulk of other trees. And I find them ſhort (at leaſt) by ſo many parts in bigneſs, although I know thoſe other Fruit-trees to have been much hindred in their ſtature by evil guiding. Here hence I gather thus: Gathered by reaſon out of experience.

If my trees be a hundred years old, and yet want two hundred of their growth before they leave encreaſing, which make three hundred, then muſt we needs reſolve, that this three hundred years are but the third part of a trees life; becauſe, (as all things living beſides) ſo trees muſt have allowed for them for their increaſe one third, another third for their ſtand, and a third part of time alſo for their decay. All which time of a tree amounts to nine hundred years; three hundred for increaſe, three hundred for his ſtand, whereof we have the term [ſtature] and three hundred for his decay: and yet I think, (for we muſt conjecture by comparing, becauſe no one man liveth to ſee the full age of trees) I am within the compaſs of his age, ſuppoſing always the fore-ſaid means of preſerving his life. Conſider the age of other living Creatures: The Horſe, and moiled Oxe wrought to an untimely death, yet double the time of their increaſe. Part of a trees age.

creaſe. A dog likewiſe increaſeth three, ſtands three at leaſt, and in as many (or rather more) decays.

Man's age. Every living thing beſtows the leaſt part of his age in his growth, and ſo it muſt needs be with trees. A man comes not to his full growth and ſtrength (by common eſtimation) before thirty years, and ſome ſlender and clean bodies, not till forty: ſo alſo ſo long ſtands his ſtrength; and ſo long alſo muſt he have allowed by courſe of nature to decay: Ever ſuppoſing that he be well kept with neceſſaries, and from, and without ſtrains, bruiſes, and all other domineering diſeaſes. I will not ſay upon true report, that Phyſick holds it poſſible, that a clean body kept by theſe three Doctors, *Doctor Diet*, *Doctor Quiet*, and *Doctor Merryman*, may live near a hundred years: Neither will I here urge the long years of *Methuſelah*, and thoſe men of that time, becauſe you will ſay, Man's days are ſhortned ſince the flood. But, what hath ſhortned them? God, for man's ſins; but, by means, as want of knowledge, evil Government, Riot, Gluttony, Drunkenneſs, and (to be ſhort) the increaſe of the Curſe, our ſins increaſing in an Iron and wicked age.

Now, if a man, whoſe body is nothing (in a manner) but tender rottenneſs, whoſe courſe of life cannot by any means, by Counſel, reſtraint of Laws, or Puniſhment, nor hope of Praiſe, Profit, or eternal Glory, be kept within any bounds, who is degenerate clean from his natural feeding, to effeminate niceneſs, and cloying his body with exceſs of meat, drink, ſleep, *&c.* and to whom nothing is ſo pleaſant, and ſo much deſired, as the cauſes of his own death, as idleneſs, luſt, *&c.* may live to that age: I ſee not but a tree of a ſolid ſubſtance, not damnified by heat, or cold, capable of, and ſubject to any kind of ordering, or dreſſing, that a man ſhall apply unto him, feeding naturally, as from the beginning, diſburthened of all ſuperfluities, eaſed of, and of his own accord avoiding the cauſes that may annoy him, ſhould double the life of a man more than twice told: and yet natural Philoſophy, and the univerſal conſent of all Hiſtories tell us, That many other living Creatures far exceed man in length of years: As the Hart, and the Raven. Thus reporteth that famous *Roterdamer* out of *Heſiodus*, and many other Hiſtoriographers. The teſtimony of *Cicero* in his Book *De Senectute*, is weighty in this

this purpoſe, that we muſt *in poſteras ætates ſerere arbores*, which can have none other ſence, but, that our Fruit-Trees, whereof he ſpeaks, can endure for many ages.

What elſe are trees, in compariſon with the earth, but as hairs to the body of a man? And it is certain, without poyſoning, evil, and diſtemperate dyet, and uſage, or other ſuch forcible cauſe, the hairs dure with the body. That they be called excrements, it is by reaſon of their ſuperfluous growth: (for cut them as often as you liſt, and they will ſtill come to their natural length) not in reſpect of their ſubſtance and nature. Hairs endure long, and are an ornament, and of uſe alſo to the body, as trees to the earth.

So that I reſolve upon good reaſon, that Fruit-trees well ordered, may live and like a thouſand years, and bear fruit; and the longer, the more, the greater, and the better, becauſe his vigour is proud and ſtronger, when his years are many. You ſhall ſee old trees put forth their buds, and bloſſoms, both ſooner and more plentiful than young trees, by much. And I ſenſibly perceive my young trees to inlarge their fruit as they grow greater, both for number and greatneſs. Young Heifers bring not forth Calves ſo fair, neither are they ſo plentiful to milk, as when they come to be old Kine. No good Houſe-wife will breed of a young, but of an old breed-mother: It is ſo in all things naturally, therefore in trees.

The age of Timber-trees.

And if Fruit-trees laſt to this age, how many ages is it to be ſuppoſed, ſtrong, and huge Timber-trees, will laſt? whoſe huge bodies require the years of divers *Methuſelahs*, before they end their days, whoſe ſap is ſtrong and bitter, whoſe bark is hard and thick, and their ſubſtance ſolid and ſtiff: all which are defences of health, and long life. Their ſtrength withſtands all forcible winds; their ſap of that quality is not ſubject to worms and tainting; their bark receives ſeldom or never by caſualty, any wound: And not only ſo, but he is free from removals, which are the death of millions of trees; whereas the Fruit tree in compariſon, is little, and often blown down, his ſap ſweet, eaſily, and ſoon tainted, his bark tender, and ſoon wounded, and himſelf uſed by man, as man uſeth himſelf, that is, either unskilfully, or careleſly.

It

Age of trees discerned.

It is good for ſome purpoſes, to regard the age of your fruit-trees, which you may eaſily know, till they come to accompliſh twenty years, by his knots: Reckon from his Root upward an arm, and ſo to his top twig, and every years growth is diſtinguiſhed from other by a knot, except lopping or removing do hinder.

CHAP. XV.

Of gathering and keeping Fruit.

General rule.

Although it be an eaſie matter, when God ſhall ſend it, to gather and keep fruit, yet are there certain things worthy your regard: You muſt gather your fruit when it is Ripe, and not before, elſe will it wither, and be tough and ſowr. All fruits generally are Ripe, when they begin to fall: For trees do as all other bearers do, when their young ones are Ripe, they will wain them. The Dove her Pidgeons, the Coney her Rabbets, and Women their Children. Some fruit-trees ſometimes getting a taint in the ſetting, with a froſt, or evil wind, will caſt their fruit untimely, but not before they leave giving them ſap, or they leave growing: Except from this fore-ſaid rule, Cherries, Damſons, and Bullis. The Cherry is Ripe when he is ſwelled, wholly Red, and ſweet Damſons and Bullis not before the firſt froſt.

Cherries, &c.

Apples.

Apples are known to be Ripe, partly by their colour, growing towards a yellow, except the Leather-coat, and ſome Pears, and Greenings.

When.

Timely Summer-fruit will be ready, ſome at Midſummer, moſt at Lammas for preſent uſe; but generally, no keeping fruit before *Michaeltide*. Hard winter fruit, and Wardens longer.

Gather at the full of the Moon, for keeping, gather dry for fear of Rotting.

Dry ſtalks.

Gather the ſtalks withal, for a little wound in fruit is deadly; but not the ſtump, that muſt bear the next fruit; nor leaves, for moiſture putrifies.

Severally.

Gather every kind ſeverally by it ſelf, for all will not keep alike, and it is hard to diſcern them, when they are mingled.

Over-laden trees.

If your trees be over-laden, (as they will be, being ordered, as is before taught) I like better of pulling ſome off, (though they be

be not ripe) near the top of the Bough, then of propping by much, the reſt ſhall be better fed. Propping puts the boughs in danger, and frets it at leaſt.

Inſtruments: A long Ladder of light Fir, a Stool ladder, as in the eleventh Chapter. A gathering-apron like a poak before you, made of purpoſe, or a Wallet hung on a bough, or a baſket with a ſieve bottom, or skin bottom, with lathes or ſplinters under, hung in a rope to pull up and down: bruiſe none, every bruiſe is to fruit death; if you do, uſe them preſently. An hook to pull boughs to you is neceſſary. Break no boughs. Inſtruments. Bruiſes.

For keeping, lay them in a dry loft, the longeſt-keeping Apples firſt and furtheſt on dry ſtraw, on heaps, ten or fourteen days, thick, that they may ſweat. Then dry them with a ſoft and clean cloth, and lay them thin abroad. Long-keeping fruit would be turned once in a month ſoftly; but not in, nor immediately after froſt. In a loft, cover'd well with ſtraw, but rather with chaff or bran: For froſt doth cauſe tender rottenneſs. Keeping.

CHAP. XVI.

Of Profits.

NOw pauſe with your ſelf, and view the end of all your Labours in an Orchard: unſpeakable pleaſure, and infinite commodity. The pleaſure of an Orchard I refer to the laſt Chapter, for the concluſion; and in this Chapter, a word or two of the profit, which thorowly to declare is paſt my skill; and I account it as if a man ſhould attempt to add light to the Sun with a candle, or number the Stars. No man that hath but a mean Orchard or judgment but knows, that the commodity of an Orchard is great: Neither would I ſpeak of this, being a thing ſo manifeſt to all; but that I ſee, that through the careleſneſs of men, it is a thing generally neglected. But let them know, that they loſe hereby the chiefeſt good which belongs to houſe-keeping.

Compare the Commodity that cometh of half an acre of ground, ſet with Fruit-trees and Herbs, ſo as is preſcribed, and an whole acre (ſay it be two) with corn, or the beſt commodity you can wiſh, and the Orchard ſhall exceed by divers degrees.

In *France*, and ſome other Countries, and in *England*, they make great uſe of Cyder and Perry, thus made: Dreſs every Apple, the ſtalk, upper-end, and all galls away, ſtamp them, and Cyder and Perry.

ſtrain them, and within twenty four hours run them up into clean, ſweet, and ſound veſſels, for fear of evil air, which they will readily take: and if you hang a poakful of Cloves, Mace, Nutmegs, Cinnamon, Ginger, and peels of Lemmons in the middeſt of the Veſſel, it will make it as wholſome and pleaſant as Wine. The like uſage doth Perry require.

Theſe drinks are very wholſome; they cool, purge, and prevent hot Agues. But this skill I leave to Phyſicians.

Fruit. The benefit of your Fruit, Roots, and Herbs, though it were but to eat and ſell, is much.

Water. Water diſtilled of Roſes, Woodbind, Angelica, are both profitable, and wondrous pleaſant, and comfortable. Saffron and Liquoras will yield you much.

Conſerves. Conſerves, and Preſerves, are Ornaments to your Feaſts, health in your Sickneſs, and a good help to your friend, and to your Purſe.

He that will not be moved with ſuch unſpeakable profits, is well worthy to want, when others abound in plenty of good things.

CHAP. XVII.

Ornaments.

ME-thinks hitherto we have but a bare Orchard for fruit, and but half good, ſo long as it wants thoſe comely Ornaments that ſhould give beauty to all our labours, and make much for the honeſt delight of the owner and his friends.

Delight the chief end of Orchards. For it is not to be doubted, but as God hath given man things profitable, ſo hath he allowed him honeſt comfort, delight, and recreation in all the works of his hands. Nay, all his labours under the Sun without this are troubles, and vexations of mind: For what is greedy gain without delight, but moiling, and turmoiling in ſlavery? But comfortable delight, with content, is the good of every thing, and the pattern of Heaven. A morſel of bread with comfort, is better by much than a fat Oxe with unquietneſs. And who can deny but the Principal end of an Orchard, is the honeſt delight of one wearied with the work of his lawful calling? The very works of, and in an Orchard and Garden, are better than the eaſe and reſt of, and from other labours. When God had made a man after his own

An Orchard delightſome.

Image,

Images, in a perfect ſtate, and would have him to repreſent himſelf in authority, tranquillity, and pleaſure upon the earth, he placed him in *Paradiſe*. What was *Paradiſe?* but a Garden, an Orchard of Trees and Herbs, full of pleaſure, and nothing there but delights. The gods of the earth reſembling the great God of Heaven in Authority, Majeſty, and abundance of all things, wherein is their moſt delight? and whither do they withdraw themſelves from the troubleſome affairs of their eſtate, being tired with the hearing and judging of litigious Controverſies, choaken (as it were) with the cloſe air of their ſumptuous Buildings, their ſtomachs cloyed with variety of Banquets, their ears filled and over-burthened with tedious diſcourſings? Whither, but into their Orchards, made and prepared, dreſſed and deſtinated for that purpoſe, to renew and refreſh their ſenſes, and to call home their over-wearitd ſpirits? Nay, it is (no doubt) a comfort to them, to ſet open their caſements into a moſt delicate Garden and Orchard, whereby they may not only ſee that, wherein they ſo much delighted, but alſo to give freſh, ſweet and pleaſant air to their Galleries and Chambers.

An Orchard in Paradiſe.

Cauſe of wearifomneſs.

Orchard is the remedy.

And look what theſe men do by reaſon of their greatneſs and ability, provoked with delight, the ſame doubtleſs would every of us do, if power were anſwerable to our deſires; whereby we ſhew manifeſtly, that of all other delights on earth, they that are taken by Orchards are moſt excellent, and moſt agreeing with nature.

All delights in Orchards.

For whereas every other pleaſure commonly fills ſome one of our ſenſes, and that only with delight; this makes all our ſenſes ſwim in pleaſure, and that with infinite variety, joyned with no leſs commodity.

This delights all the ſenſes.

That famous Philoſopher, and matchleſs Orator, *M. T. C.* preſcribeth nothing more fit, to take away the tediouſneſs of three or fourſcore years, than the pleaſures of an Orchard.

Delighteth old age.

What can your eye deſire to ſee, your ears to hear, your mouth to take, or your noſe to ſmell, that is not to be had in an Orchard, with abundance of variety? What more delightſome than an infinite variety of ſweet ſmelling flowers, decking with ſundry colours, the green mantle of the earth, the univerſal mo-

Cauſes of delight in any Orchard.

ther of us all, ſo by them beſpotted, ſo died, that all the World cannot ſample them, and wherein it is more fit to admire the Dyer, than imitate his Workmanſhip, colouring not only the earth, but decking the air, and ſweetning every breath and ſpirit.

Flowers. The Roſe red, Damask, Velvet, and double double Province-Roſe, the ſweet Musk-Roſe double and ſingle, the double and ſingle white-Roſe: The fair and ſweet-ſenting Woodbine, double and ſingle, and double double. Purple Cowſlips, and double Cowſlips, and double double Cowſlips. Primroſe double and ſingle. The Violet nothing behind the beſt, for ſmelling ſweetly. A thouſand more will provoke your content.

Borders and Squares. And all theſe by the skill of your Gardiner, ſo comelily and orderly placed in your borders and ſquares, and ſo intermingled, that one looking thereon, cannot but wonder to ſee, what Nature, corrected by Art, can do.

Mounts. When you behold in divers corners of your Orchard *Mounts* of ſtone or wood, curiouſly wrought within and without, or of earth covered with Fruit-trees, Kentiſh Cherries, Damſons, Plums, *&c.* with ſtairs of precious workmanſhip; and in ſome corner (or more) a true Dial or Clock, and ſome Antick works; and eſpecially ſilver-ſounding Muſick, mixt Inſtruments, and Voices, gracing all the reſt: How will you be wrapt with Delight!

Whence you may ſhoot a Buck. Dial. Muſick.

Walks. Seats. Large Walks, broad and long, cloſe and open, like the *Tempe*-groves in *Theſſaly*, raiſed with gravel and ſand, having ſeats and banks of Camomile; all this delights the mind, and brings health to the body.

Order of trees. View now with delight the works of your own hands, your Fruit-trees of all ſorts, loaden with ſweet bloſſoms, and fruit of all taſtes, operations, and colours: your trees ſtanding in comely order, which way ſoever you look.

Your borders on every ſide hanging and dropping with Berries, Raſpberries, Barberries, Currans, and the Roots of your trees powdred with Strawberries, Red, White, and Green, what a pleaſure is this! Your Gardner can frame your leſſer wood to the ſhape of men armed in the field, ready to give battle; of ſwift-running Grey-hounds, or of well-ſented and true-running Hounds

Shape of men and beaſts.

Hounds to chaſe the Deer, or hunt the Hare. This kind of hunting ſhall not waſte your Corn, nor much your Coyn.

Mazes well framed a man's height, may perhaps make your friend wander in gathering of Berries till he cannot recover himſelf without your help. Mazes.

To have occaſion to exerciſe within your Orchard, it ſhall be a pleaſure to have a bowling-Alley, or rather (which is more manly, and more healthful) a pair of Buts, to ſtretch your Arms. Bowling-Alley. Buts.

Roſemary and ſweet Eglantine are ſeemly Ornaments about a Door or Window, and ſo is Woodbine. Herbs.

Look Chap. 15. and you ſhall ſee the form of a Conduit; if there were two or more, it were not amiſs. Conduit.

And in mine own opinion, I could highly commend your Orchard, if either through it, or hard by it, there ſhould run a pleaſant River with ſilver ſtreams, you might ſit in your Mount, and angle a peckled Trout, ſleighty Eel, or ſome other dainty Fiſh. Or Moats, whereon you may row with a Boat, and fiſh with Nets. River. Moats.

Store of Bees in a warm and dry Bee-houſe, comely made of Fir-boards, to ſing, and ſit, and feed upon your flowers and ſprouts, make a pleaſant noiſe and ſight. For cleanly and innocent Bees, of all other things, love, and become, and thrive in an Orchard. If they thrive, (as they muſt needs, if your Gardiner be skilful, and love them; for they love their friends, and hate none but their enemies) they will, beſides the pleaſure, yield great profit to pay him his wages; yea, the increaſe of twenty Stocks or Stools with other fees, will keep your Orchard. Bees.

You need not doubt their ſtings, for they hurt not whom they know, and they know their Keeper and acquaintance. If you like not to come among them, you need not doubt them; for but near their ſtore, and in their own defence, they will not fight, and in that caſe only (and who can blame them?) they are manly, and fight deſperately. Some (as that honourable Lady at *Hacknes*, whoſe name doth much grace mine Orchard) uſe to make ſeats for them in the ſtone-walls of their Orchard, or Garden, which is good, but wood is better.

A Vine overſhadowing a ſeat, is very comely, though her Grapes with us ripen ſlowly. Vine.

One.

Birds. Nightingale.

One chief grace that adorns an Orchard, I cannot let ſlip: a brood of Nightingals, who with ſeveral notes and tunes, with a ſtrong delightſome voice out of a weak body, will bear you company night and day. She loves (and lives in) ſhots of woods in her heart. She will help you to cleanſe your trees of Catarpillars, and all noyſome worms and flies. The gentle Robin-red-breſt will help her, and in winter in the coldeſt ſtorms will keep a part. Neither will the ſilly Wren be behind in Summer, with her diſtinct whiſtle, (like a ſweet Recorder) to chear your ſpirits.

Robin-red-breſt. Wren.

Black-bird. Thruſh.

The Black-bird and Threſtle (for I take it, the Thruſh ſings not, but devours) ſing loudly in a *May* morning, and delights the ear much, and you need not want their company, if you have ripe Cherries or Berries, and would as gladly as the reſt do your pleaſure: but I had rather want their company than my fruit.

What ſhall I ſay? A thouſand of pleaſant delights are attending an Orchard: and ſooner ſhall I be weary, than I can reckon the leaſt part of that pleaſure, which one that hath, and loves an Orchard, may find therein.

What is there of all theſe few that I have reckoned, which doth not pleaſure the eye, the ear, the ſmell, and taſte? And by the ſenſes, as Organs, Pipes, and Windows, theſe delights are carried to refreſh the gentle, generous, and noble mind.

Your own labour.

To conclude, What joy may you have, that you living to ſuch an age, ſhall ſee the bleſſing of God on your labours while you live, and leave behind you to heirs, or ſucceſſors, (for God will make heirs,) ſuch a work, that many ages after your death ſhall record your love to their Country? And the rather, when you conſider (Chap. 14.) to what length of time your work is to laſt.

FINIS.

THE *COUNTRY HOUSE-WIFE'S* GARDEN:

CONTAINING

Rules for HERBS and SEEDS of common Use, with their Times and Seasons when to Set and Sowe them.

TOGETHER

With the HUSBANDRY of BEES,

Published with Secrets very necessary for every *HOUSE-WIFE*: As also divers new Knots for *GARDENS*.

The Contents see at large in the last Page.

Genes. 2. 29.

I have given unto you every Herb, and every Tree, that shall be to you for meat.

LONDON:
Printed for *George Sawbridge.* 1676.

THE COUNTRY HOUSE-WIFES GARDEN.

CHAP. I.

The Soyl.

THE Soyl of an Orchard and Garden differ only in these three points: First, the Gardens soil would be somewhat dryer, because herbs being more tender then trees, can neither abide moisture nor drought, in such excessive measure as trees; and therefore having a drier soyl, the remedy is easie against drought: if need be, water soundly, which may be done with small labour, the compass of a Garden being nothing so great as of an Orchard: and this is the cause (if they know it) that Gardners raise their squares; but if moisture trouble you, I see no remedy without a general danger, except in Hops, which delight much in a low and sappy earth. Dry. Hops.

Secondly, the soyl of a Garden would be plain and level, at least every square, (for we purpose the square to be the fittest form) the reason is, the herbs of a garden wanting such helps as should stay the water, which an orchard hath, & the roots of herbs being

being mellow and looſe, is ſoon either waſht away, or ſends out his heart by too much drenching and waſhing.

Thirdly, if a Garden ſoil be not clear of weeds, and namely of graſt, the herbs ſhall never thrive; for how ſhould good herbs proſper, when evil weeds wax ſo faſt, conſidering good herbs are tender in reſpect of evil weeds: theſe being ſtrengthned by nature, and the other by art? Gardens have ſmall place in compariſon, and therefore may more eaſily be ſo'lowed, at the leaſt one half year before, and the better dreſſed after it is framed. And you ſhall find that clean keeping doth not onely avoid danger of gathering weeds, but alſo is a ſpecial ornament, and leaves more plentifully ſap for your tender herbs.

CHAP. II.

Of the Sites.

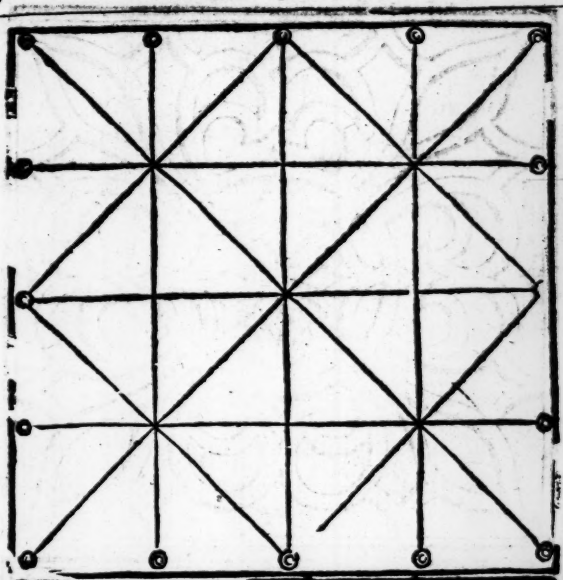
I Cannot ſee in any ſort, how the ſite of the one ſhould not be good and fit for the other: The ends of both being one, good, wholeſome, and much fruit joyned with delight, unleſs trees be more able to abide the nipping froſts than tender herbs; but I am ſure, the flowers of trees are as ſoon periſhed with cold, as any herb, except Pumpion and Melons.

CHAP. III.

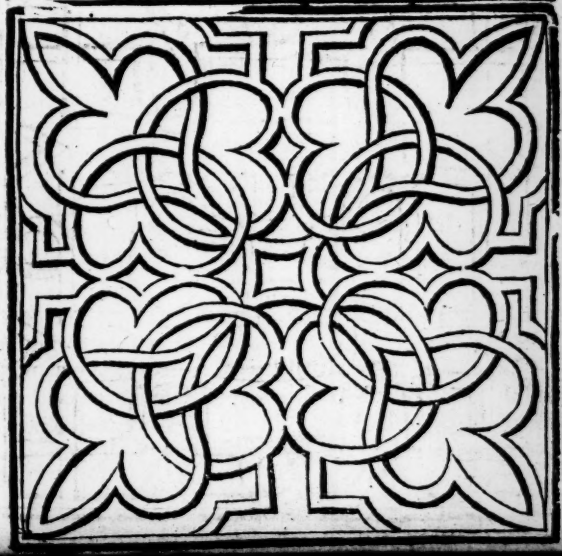
Of the Form.

LEt that which is ſaid in the Orchards form, ſuffice for a Garden in general: but for ſpecial forms in ſquares, they are as many, as there are devices in Gardiners brains. Neither is the wit and art of a skilful Gardiner in this point not to be commended, that can work more variety for breeding of more delightſome choice, and of all thoſe things, where the owner is able and deſirous to be ſatisfied. The number of Forms, Mazes, and Knots is ſo great, and men are ſo diverſly delighted, that I leave every Houſe-wife to her ſelf, eſpecially ſeeing to ſet down many, had been but to fill much paper; yet leſt I deprive her of all delight and direction, let her view theſe few, choice, new forms; and note this generally, that all plots are ſquare, and all are bordered about with Privit, Raiſins, Fea-berries, Roſes, Thorn, Roſemary, Bee-flowers, Hyſop, Sage, or ſuch like.

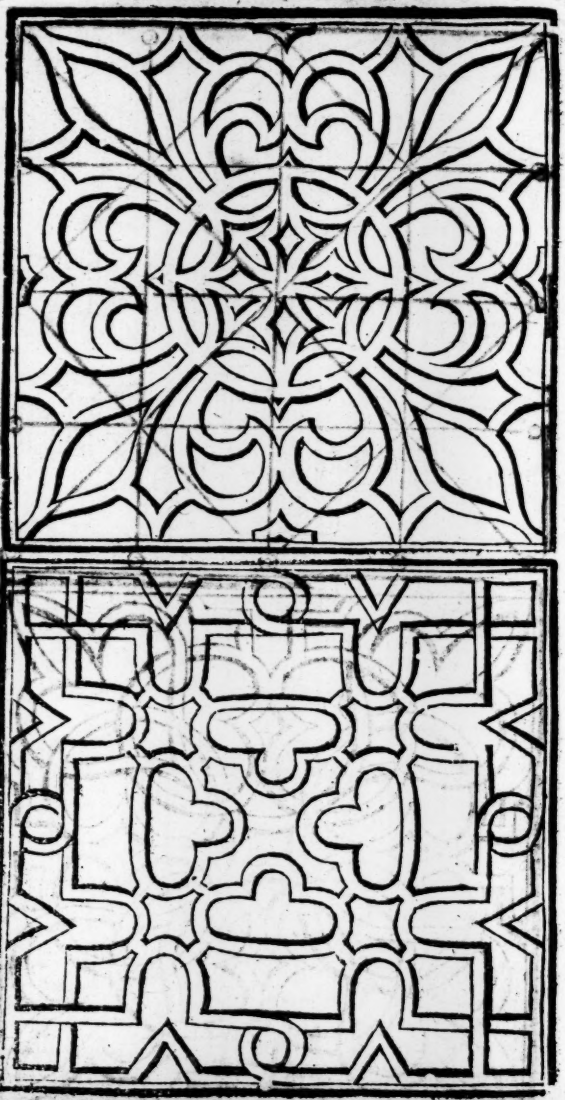
CHAP.



The ground plot for knots.

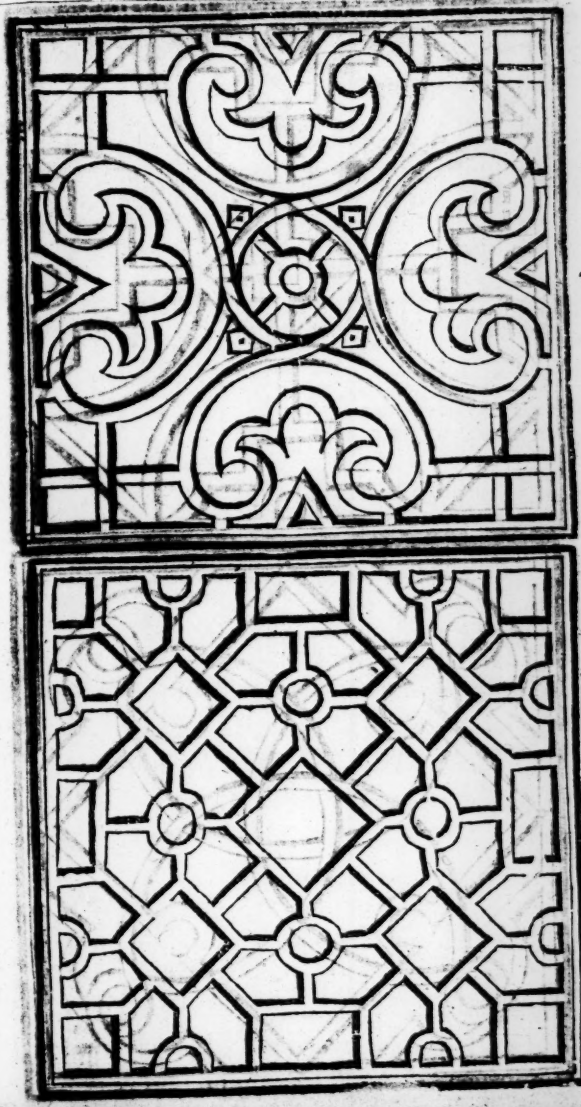


Cinkfoil.



Flower-de-luce.

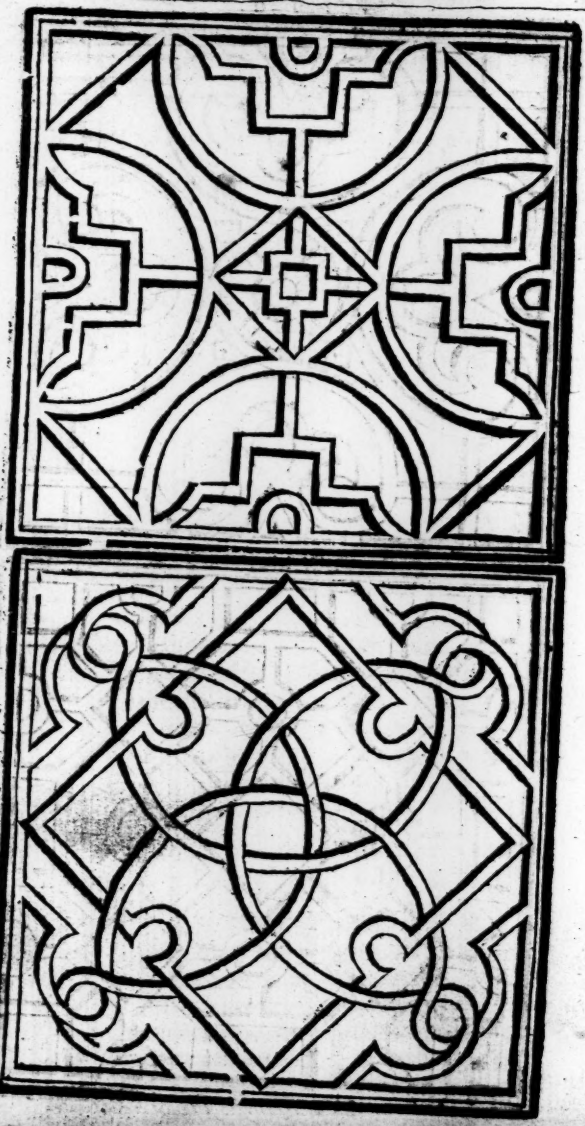
The Tre-foy.



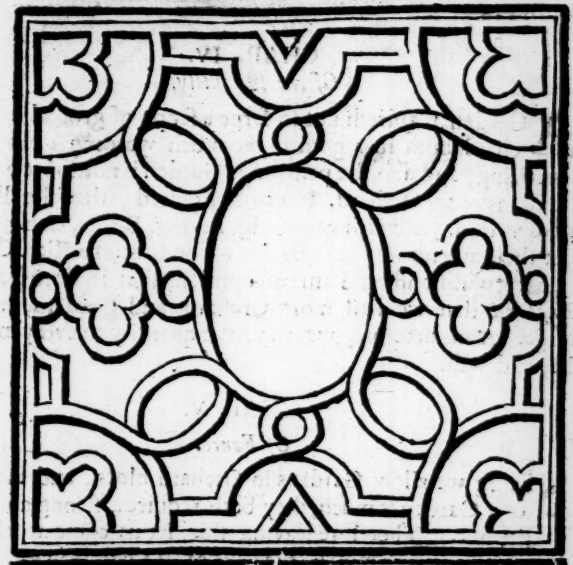
The fret.

Lozenges.

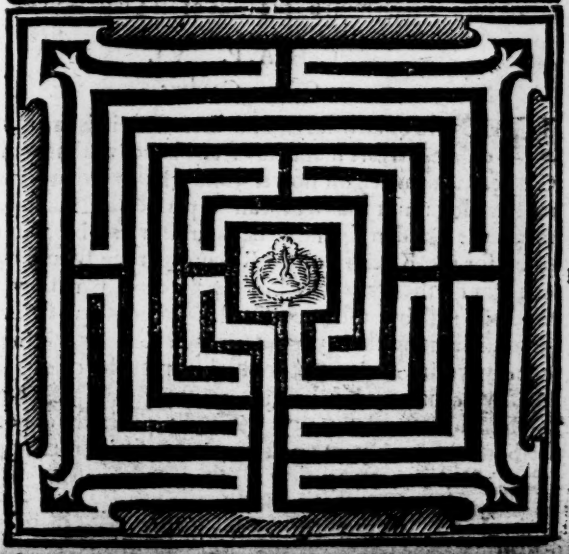
Cross-bow.



Diamond.



Oval.



Maze.

CHAP. IV.
Of the Quantity.

A Garden requireth not ſo large a ſcope of ground as an Orchard, both in regard of the much weeding, dreſſing, and removing, and alſo the pains in a Garden is not ſo well repayed home, as in an Orchard. It is to be granted, that the Kitching garden doth yield rich gains, by Berries, Roots, Cabbages, &c. yet theſe are no way comparable to the fruit of a Rich Orchard: but notwithſtanding I am of opinion, that it were better for *England* that we had more Orchards and Gardens, and more large. And therefore, we leave the quantity to every mans ability and will.

CHAP. V.
Of Fence.

SEeing we allow Gardens in Orchard plots, and the benefit of a Garden is much, they both require a ſtrong and ſhrowding fence. Therefore leaving this, let us come to the Herbs themſelves, which muſt be the fruit of all theſe labours.

CHAP. VI.
Of two Gardens.

HErbs are of two ſorts, and therefore it is meet, (they requiring divers manners of Husbandry) that we have two Gardens; a garden for flowers, and a Kitchin-garden; or a Summer garden: not that we mean ſo perfect a diſtinction, that we mean the Garden for flowers ſhould or can be without herbs good for the Kitchin, or the Kitchin-garden ſhould want flowers, nor on the contrary; but for the moſt part they would be ſevered: firſt, becauſe your Garden-flowers ſhall ſuffer ſome diſgrace, if among them you intermingle Onions, Parſnips, &c. Secondly, your Garden that is durable, muſt be of one form: but that which is your Kitchins uſe, muſt yield daily Roots, or other herbs, and ſuffer deformity. Thirdly, the herbs of both will not be both alike ready, at one time, either for gathering, or removing. Firſt therefore,

Of

Of the Summer Garden.

THeſe herbs and flowers are comely and durable for ſquares & Cnots, and all to be ſet at *Michael-tide*, or ſomewhat before; that they may be ſetled in, and taken with the ground before winter, though they may be Set, eſpecially ſown, in the ſpring.

Roſes of all ſorts, (ſpoken of in the Orchard) muſt be Set. Some uſe to ſet ſlips and twine them, which ſometimes, but ſeldome thrive all.

Roſemary, Lavender, Bee-flowers, Iſop, Sage, Time, Cowſlips, Piony, Daiſies, Clove-Gilliflowers, Pinks, Southernwood, Lillies, of all which hereafter.

Of the Kitchin Garden.

THough your Garden for flowers doth in a ſort peculiarly challenge to it ſelf a perfect, and exquiſite form to the eyes, yet you may not altogether neglect this, where your herbs for the pot do grow: And therefore ſome here make comely borders with the herbs aforeſaid; the rather, becauſe abundance of Roſes and Lavender, yield much profit, and comfort to the ſenſes: Roſe water, Lavender, the one cordial (as alſo the Violets, Burrage, and Bugloſs) the other reviving the ſpirits by the ſenſe of ſmelling, both moſt durable for ſmell, both in flowers and water: you need not here raiſe your beds, as in the other Garden, becauſe Summer towards, will not let too much wet annoy you, and theſe herbs require more moiſture: yet muſt you have your beds divided, that you may go betwixt to weed, and ſomewhat of form would be expected: To which it availeth that you place your herbs of biggeſt growth, by walls, or in borders, as Fennel, &c. and the loweſt in the middeſt, as Saffron, Strawberries, Onions, &c.

CHAP. VII.

Diviſions of Herbs.

GArden herbs are innumerable, yet theſe are common, and ſufficient for our Country-houſe-wives.

Herbs of great growth.

Fennel, Angelica, Tanſie, Hollihock, Lovage, Elicampane, French Mallows, Lillies, French Poppy, Endive, Succory, and Clary.

Herbs of middle growth.

Burrage, Bugloſs, Parſly, Sweet Sicily, Flower-deluce, Stock-Gilli-flowers, Wall-flowers, Anniſeeds, Coriander, Fether-few, Mary-golds, Oculus Chriſti, Langdebeef, Alexanders, Carduus-Benedictus.

Herbs of ſmaller growth.

Panſie, or Hearts-eaſe, Coaſt-Marjoram, Savory, Straw-berries, Saffron, Licoras, Daffadowndillies, Leeks, Chives, Chibbals, Skerots, Onions, Bachelors buttons, Daiſies, Pennyroyal.

Hitherto, I have only reckoned up, and put in this rank, ſome Herbs: their Husbandry follows, each in an Alphabetical order, the better to be found.

CHAP. VIII.

Husbandry of Herbs.

ALexanders, are to be renewed as Angelica. It is a timely Pot-herb.

Angelica is renewed with the ſeed, whereof he beareth plenty the ſecond year, and ſo dyeth. You may remove the roots the firſt year. The leaves diſtilled, yield water, ſoveraign to expel pain from the ſtomack. The Root dried, taken in the faſt, ſtoppeth the pores againſt infection.

Anniſeeds make their growth, and bear ſeeds the firſt year, and dieth as Coriander: it is good for opening the pipes, and it is uſed in Comfits.

Artichoaks, are renewed by dividing the Roots into Sets, in *March*, every third or fourth year. They require a ſeveral uſuage, and therefore a ſeveral whole plot by themſelves, eſpecially, conſidering they are plentiful of fruit much deſired.

Burrage, and Bugloſs, two Cordials, renew themſelves by ſeed yearly, which is hard to be gathered, they are exceeding good Pot-herbs, good for Bees, and moſt comfortable for the heart and ſtomack, as Quinces and Wardens.

Camomile, ſet roots in banks and walks, it is ſweet ſmelling, qualifying head-ach.

Cab-

Cabbages, require great room, they ſeed the ſecond year, ſowe them in *February*, remove them when the plants are an handful long, ſet deep and wet. Look well in drought for the white Caterpillars worm, the ſpawns under the leaf cloſely; for every living Creature doth ſeek food and quiet ſhelter, and growing quick they draw to, and eat the heart: you may find them in a rainy dewy morning.

It is a good Pot-herb, and of this herb called *Cole*, our Countrey Houſe-wifes give their Pottage their name, and call them *Caell*.

Carduus Benedictus, or bleſſed Thiſtle, ſeeds and dies the firſt year: the excellent vertue thereof, I refer to Herbals, for we are Gardiners, not Phyſitians.

Carrets are ſown late in *April*, or *May*, as Turneps, elſe they ſeed the firſt year, and then their roots are naught: the ſecond year they die, their root grow great, and require large room.

Chibals or Chives, have their roots parted, as Garlick, Lillies, *&c.* and ſo are they ſet every third or fourth year: a good pot-herb, opening, but evil for the eyes.

Clary, is ſown, it ſeeds the ſecond year, and dies. It is ſomewhat harſh in taſte, a little in pottage is good, it ſtrengtheneth the reins.

Coaſt, Root parted, makes Sets in *March*, it bears the ſecond year; it is uſed in Ale in *May*.

Coriander, is for uſage and uſes, much like Anniſeeds.

Daffadowndillies, have their roots parted, and ſet once in three or four years, or longer time. They flower timely, and after *Midſummer* are ſcarcely ſeen. They are more for Ornament than for uſe, ſo are Daiſies.

Daiſie roots parted and Set, as Flower-deluce, and Camomile, when you ſee them grow too thick or decay. They be good to keep up, and ſtrengthen the edges of your borders, as Pinks, they be red, white, mixt.

Elicampane-Root is long-laſting, as is the Lovage: it ſeeds yearly, you may divide the Root, and Set; the Root taken in Winter is good (being dried, powdered, and drunk) to kill itches.

Endive and Succory, are much like in nature, ſhape, and uſe,

they renew themſelves by ſeed, as Fennel, and other herbs. You may remove them before they put forth ſhanks: a good Pot-herb.

Fennel is renewed, either by the ſeeds (which it beareth the ſecond year, and ſo yearly in great abundance) ſown in the fall or Spring, or by dividing one Root into many Sets, as Artichoake. It is long of growth and life. You may remove the root unſhankt: It is exceeding good for the eyes, diſtilled, or any otherwiſe taken: it is uſed in dreſſing Hives for ſwarms, a very good Pot-herb, or for Sallets.

Fether-few ſhakes ſeed. Good againſt a ſhaking Fever, taken in a poſſet drink faſting.

Flower-de-luce, long laſting, divide his roots and Set: the roots dryed have a ſweet ſmell.

Garlick may be ſet an handfull diſtance, two inches deep, in the edge of your beds. Part the head into ſeveral cloves, and every clove ſet in the latter end of *February*, will increaſe to a great head before *September*: good for opening, evil for eyes; when the blade is long, faſten two and two together, the heads will be bigger.

Hollihock riſeth high, ſeedeth and dyeth; the chief uſe I know, is ornament.

Iſop is reaſonable long laſting: young Roots are good Set, ſlips better. A good pot-herb.

July-flowers, commonly called Gilly-flowers, or Clove July-flowers, (I call them ſo, becauſe they flower in *July*) they have the name of Cloves, of their ſent. I may well call them the King of flowers except the Roſe, & the beſt ſort of them are called Queen-July-flowers. I have of them nine or ten ſeveral colours, & divers of them as big as Roſes; of all flowers (ſave the Damask Roſe) they are the moſt pleaſant to ſight and ſmell, they laſt not paſt three or four years unremoved. Take the ſlips (without ſhanks) and Set any time ſave in extream froſt, but eſpecially at *Michaelide*. Their uſe is much in ornament, and comforting the ſpirits, by the ſenſe of ſmelling.

July-flowers of the Wall, or Wall July-flowers, Wall-flowers, or Bee-flowers, or Winter-July-flowers, becauſe growing in the walls even in winter, and good for Bees, will grow even in ſtone-walls,

walls, they will seem dead in Summer, and yet revive in Winter they yield seed plentifully, which you may sow at any time, or in any broken earth, especially on the top of a mud-wall, but moist; you may set the root before it be brancht, every slip that is not flowr'd will take root, or crop him in the Summer, and he will flower in Winter, but his Winter seed is untimely. This and Palmes are exceeding good, and timely for Bees.

Leeks yield seed the second year, unremoved, and dye, unless you remove them, usually to eat with Salt and Bread, as Onions always green, good pot-herb, evil for the eyes.

Lavender-spike would be removed within seven years, or eight at the most: slips twined, as Hysop and Sage, would take best at *Michael-tide*. This flower is good for Bees, most comfortable for swelling, except Roses: and kept dry, is as strong after a year, as when it is gathered. The water of this is comfortable.

White *Lavender* would be removed sooner.

Lettice yields seed the first year, and dyes: some betime, and if you would have them Cabbage for sallets, remove them as you do Cabbage. They are usual in Sallets and in the pot.

Lilies white and red, remove once in three or four years, their roots yield many Sets, like the Garlick. *Michael-tide* is the best. They grow high, after they get root. These roots are good to break a boil, as are Mallows and Sorrel.

Mallows, French or gagged, the first or second year, seed plentifully. Sow in *March*, or before. They are good for the housewifes pot, or to break a bunch.

Marigolds, most commonly come of seed, you may remove the Plants when they are two inches long. The double Marigold, being as big as a little Rose, is good for shew. They are a good Pot-herb.

Oculus Christi, or Christs-eye, seeds, and dyes the first or second year: you may remove the young Plants, but seed is better. One of these seeds put into the eye, within three or four hours will gather a thick skin, clear the eye, and bolt it self forth without hurt to the eye. A good Pot-herb.

Onions are sown in *February*, they are gathered at *Michael-tide*, and all the Summer long, for Sallet; as also young Parsly,

Sage,

Sage, Chibals, Lettice, ſweet Sicily, Fennel, &c. good alone, or with meat, muttons, &c. for ſawce, eſpecially for the pot.

Parſly ſowe the firſt year, and uſe the next year; it ſeeds plentifully, an herb of much uſe, as ſweet Sicily is. The Seed and Roots are good againſt the ſtone.

Parſnips require an whole plot, they be plentiful and common, ſowe them in *February*, the King's (that is in the middle) ſeed broadeſt and reddeſt. Parſnips are ſuſtenance for a ſtrong ſtomach, not good for evil eyes: When they cover the earth, in a drought to tread the tops, makes the Roots bigger.

Penny-royal, or pudding-graſs, creeps along the ground, like ground Ivy. It laſts long, like daiſies, becauſe it puts and ſpreads daily new roots. Divide, and remove the roots, it hath a pleaſant taſte & ſmell, good for the pot, or hacktmeat, or a Haggas pudding.

Pumpions, ſet Seeds with your finger, a finger deep, late in *March*, and ſo ſoon as they appear, every night if you doubt froſt, cover them, and water them continually out of a water-pot: they be very tender, their fruit is great and wateriſh.

French-Poppy beareth a great flower, and the ſeed will make you ſleep.

Raddiſh is ſawce for cloyed ſtomachs, as Capers, Olives, and Cucumbers, caſt their ſeeds all ſummer long here and there, and you ſhall have them always young and freſh.

Roſemary, the Grace of Herbs here in *England*, in other Countries common. To ſet ſlips immediately after *Lammas*, is the ſureſt way. Seed ſown may prove well, ſo they be ſown in hot weather, ſomewhat moiſt, and good earth: for the herb, though great, is neſh and tender (as I take it) brought from hot Countries to us in the cold North: ſet thin, it becomes a window well. The uſe is much in meats, more in Phyſick, moſt for Bees.

Rue, or *Herb of Grace*, continually green, the ſlips are ſet. It laſts long, as Roſemary, Sothern wood, &c. too ſtrong for mine Houſe-wifes pot, unleſs ſhe will brew Ale therewith, againſt the Plague: let them not ſeed if you will have him laſt.

Saffron, every third year his roots would be removed at *Midſummer*, for when all other Herbs grow moſt, it dieth. It flowreth at *Michael-tide*, and groweth all Winter: keeps his flowers from Birds in the morning, and gather the yellow, (for they

they shape much like Lillies) dry, and after dry them, they be precious, expelling diseases from the heart and stomack.

Savory, seeds and dyes the first year, good for my Houswifes pot and pye.

Sage, set slips in *May*, and they grow aye; let it not seed, it will last the longer. The use is much and common. The Monkish Proverb is *tritum*.

Cur moritur homo, cui salvia crescit in horto.

Skerets, the Roots are set when they be parted, as *Piony*, and Flower-deluce at *Michael-tide*, the Root is but small and very sweet, I know none other special use but the Table.

Sweet *Sicily*, long lasting, pleasantly tasting, either the seed sown, or the root parted, or removed, makes increase, it is of like use with Parsley.

Strawberries, long lasting, set Roots at *Michael-tide*, or the Spring, they be red, white and green, and ripe, when they be great and soft, some by *Midsummer with us*. The use is, they will cool my Housewife well, if they be put in Wine or Cream with Sugar.

Time, both seeds, slips, and Roots are good, if it seed not, it will last three or four years or more, it smelleth comfortably. It hath much use, namely, in all cold meats, it is good for Bees.

Turnip, is sown: In the second year they bear plenty of seed; they require the same time of sowing that Carrets do: they are sick of the same disease that Cabbages be. The root increaseth much, it is most wholesome, if it be sown in a good and well tempered earth; Soveraign for eyes and bees.

I reckon these herbs onely, because I teach my Country House-wife, not skilful Artists; and it should be an endless labour, and would make the matter tedious to reckon up *Land-chief*, *Stock-Gilly-flowers*, *Charvel*, *Valerian*, *Go to bed at noon*, *Piony*, *Licoras*, *Tansie*, *Garden-Mints*, *Germander*, *Centaury*, and a thousand such Physick Herbs. Let her first grow cunning in this, and then she may inlarge her Garden as her skill and ability encreaseth. And to help her the more, I have set down these Observations.

CHAP.

CHAP. IX.

General Rules in Gardening.

IN the South parts, Gardening may be more timely, and more safely done, then with us in *Yorkshire*, because our air is not so favourable, nor our ground so good.

2. Secondly, most seeds shake, by turning the good earth, are renewed, their Mother the earth keeping them in her bowels, till the Sun their Father can reach them with his heat.

3. In setting herbs, leave no top more then a handful above the ground, nor more then a foot under the earth.

4. Twine the roots of those slips you set, if they will abide it. Gilly-flowers are too tender.

5. Set moist, and sow dry.

6. Set slips without shanks at any time, except at *Midsummer*, and in frosts.

7. Seeding spoils the most roots, as drawing the heart and sap from the root.

8. Gather for the pot and medicines, herbs tender and green, the sap being in the top, but in Winter the root is best.

9. All the herbs in the Garden for flowers would once in seven years be renewed, or soundly watered with puddle water, except Rosemary.

10. In all your Gardens and Orchards, Banks and Seats of Camomile, Penny-royal, Daisies and Violets, are seemly and comfortable.

These require whole plots, Artichoaks, Cabbages, Turnips, Parsnips, Onions, Carrets, and (if you will) Saffron and Skerrits.

12. Gather all your seeds, dead, ripe, and dry.

13. Lay not dung to the roots of your herbs, as usually they do: for dung not melted is too hot even for Trees.

14. Thin setting and sowing (so the roots stand not past a foot distance) is profitable, for the herbs will like the better. Greater herbs would have more distance.

15. Set and sow herbs in their time of growth, (except at *Midsummer*,

Summer, for then they are too tender) but Trees in their time to reſt.

16. A good Houſe-wife may, and will gather ſtore of herbs for the pot, about Lammas, and dry them, and pound them, and in winter they will do good ſervice.

Thus have I limmed out a Garden to our Country Houſe-wives, and given them Rules for common herbs. If any of them (as ſometimes they are) be knotty, I refer them to Chap. 3. The skill and pains of weeding the Garden with weeding knives of fingers, I refer to themſelves, and their maids, willing them to take the opportunity of a ſhower of rain; withal, I adviſe the Miſtreſs either to be preſent her ſelf, or to teach her maids to know herbs from weeds.

CHAP. X.

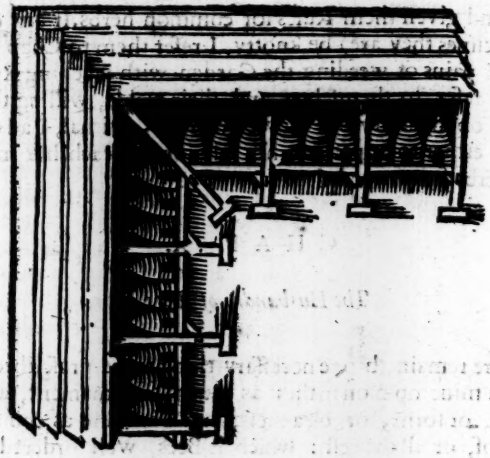
The Husbandry of Bees.

THere remaineth one neceſſary thing to be preſcribed, which in mine opinion makes as much for ornament, as either flowers, or form, or cleanneſs, and I am ſure as commodious as any of, or all the reſt: which is Bees, well ordered. And I will not account her any of my good Houſe-wives, that wanteth either Bees, or skilfulneſs about them. And though I know ſome have written well, and truly, and others more plentifully upon this Theme: yet ſomewhat have I learned by experience, (being a Bee-maſter my ſelf) which hitherto I cannot find put into writing, for which I think our Houſe-wives will count themſelves beholding unto me.

The firſt thing that a Gardiner about Bees muſt be careful for, is, an houſe, not ſtakes and ſtones abroad, *Sub dio:* for ſtakes rot and reel, Rain and weather eat your hivers and covers, and cold moſt of all is hurtful for your Bees. Therefore you muſt have an houſe made along a ſure dry wall in your Garden, near or in your Orchard: For Bees love flowers and wood with their hearts. Bee-houſes.

This the form; a Frame ſtanding on poſts with one floor (if you would have it hold more Hives, two floors) boarded, laid on bearers, and back poſts, covered over with boards, flat-wiſe.

Let the floors be without holes or clifts, leſt in caſting time



the Bees lie out and loyter.

And though your Hives ſtand within an hand-breadth the one of another, yet will the Bees know their home.

In this Frame may your Bees ſtand dry and warm, eſpecially if you make doors, like doors of windows, to ſhrowd them in winter, as an houſe; provided you leave the hives mouth open. I my ſelf have deviſed ſuch an houſe, and I find that it ſtrengthens my Bees much, and my Hives will laſt ſix to one.

Hives. Mr. *Markham* commends Hives of Wood: I diſcommend them not: but ſtraw hives are in uſe with us, and I think, with all the World, which I commend for nimbleneſs, cloſeneſs, warmneſs, and drineſs. Bees love no external motions of daubings, or ſuch like. Sometimes occaſion ſhall be offered to liſt and turn hives, as ſhall appear hereafter. One light entire hive

hive of ſtraw, in that caſe, is better than one that is daubed, weighty, and cumberſome. I wiſh every hive, for a keeping ſwarm, to hold three pecks at leaſt by meaſure; for too little hives procure Bees, in caſting time, either to lie out, and loyter, or elſe to caſt before they be ripe, and ſtrong, and ſo make weak ſwarms, and untimely: whereas if they have room ſufficient they ripen timely, and caſting ſeaſonably, are ſtrong, and fit for labour preſently. Neither would the hive be too great, for then they loyter, and waſte meat and time.

Your Bees delight in wood, for feeding, eſpecially for caſting, therefore want not an Orchard. A *May*'s ſwarm is worth a Mares Foal: if they want wood, they be in danger of flying away. Any time before *Midſummer* is good for caſting, and timely; before *July* is not evil. I much like Mr. *Markham*'s opinion, for having a ſwarm in combs of a dead or forſaken hive, ſo they be freſh and cleanly. To think, that a ſwarm of your own, or others, will of it ſelf come into any ſuch hive, is a meer conceit, *Experto crede Roberto.* His ſmearing with hony is to no purpoſe, for the other Bees will eat it up. If your ſwarm knit in the top of a tree, as they will, if the wind beat them not to fall down, let the ſtool or ladder preſcribed in the Orchard do you ſervice. Hiving of Bees.

The leſs the Spelks are, the leſs is the waſte of your honey, and the more eaſily will they draw, when you take your Bees. Four Spelks athwart, and one top Spelk are ſufficient. The Bees will faſten their combs to the hive. A little honey is good, but if you want, Fennel will ſerve to rub your hive withal. The Hive being dreſt, and ready ſpelkt, rub'd, and the hole made for their paſſage, (I uſe no hole in the Hive, but a piece of wood hoal'd, to ſave the Hive, and keep out mice) ſhake in your Bees, or the moſt of them (for all commonly you cannot get) the remainder will follow. Many uſe ſmoak, nettles, &c. which I utterly diſlike; for Bees love not to be moleſted. Ringing in the time of caſting is a meer fancie: violent handling of them is ſimply evil, becauſe Bees of all other creatures love cleanlineſs, and peace. Therefore handle them leiſurely, and quietly, and their Keeper, whom they know, may do with them what he will without hurt: Being hived at night, bring them to their ſeat. Set your Hives all of one year together. Spelks.

Signes of breeding, if they be strong.

1. They will avoid dead young Bees and Drones.

2. They will sweat in the morning, till it run from them, always when they be strong.

Signes of casting.

1. They will fly Droans by reason of heat.

2. The young Swarms will once or twice in some fair season come forth mustring, as though they would cast, to prove themselves, and go in again.

3. The night before they cast, if you lay your ear to the hives mouth, you shall hear two or three, but especially one above the rest, cry, up, up, up, or Tout, tout, tout, like a Trumpet sounding the alarum to the battel.

Much descanting there is of, and about the Master Bee, and their degrees, order, and Government: but the truth in this point is rather imagined, than demonstrated. There are some conjectures of it, *viz.* we see in the combs divers greater houses than the rest, and we commonly hear the night before they cast, sometime one Bee, sometime two or more Bees, give a loud and several sound from the rest, and sometimes Bees of greater bodies than the common sort: But what of all this? I lean not on conjectures, but love to set down what I know to be true, and leave these things to them that love to divine.

Keep none weak, for it is hazard oftentimes with loss. Feeding will not help them: for being weak, they cannot come down to meat, if they come down, they die, because weak Bees cannot abide cold. If none of these, yet will the other Bees, being strong, smell the honey, and come, and spoil, and kill them. Some helps is in casting time, to put two weak swarms together, or as Mr. *Markham* well saith, Let them not cast late, by raising them with wood, or stone, but with imps (say I.) An imp is, three or four wreaths wrought as the Hive, the same compass to raise the Hive withal; but by experience in trial, I have found out a better way by Clustring, for late or weak swarms; hitherto not found out of any that I know. That is this: After casting time, if I have any stock proud, and hindred from timely casting, with former Winters poverty, or evil weather in casting time, with two handles and crooks fitted for the purpose, I turn up that stock so pester-

Catching.

Clustring.

ed

ed with Bees, and ſet it on the crown, upon which ſo turned with the mouth upward, I place another empty hive well dreſt, and ſpelkt, into which, without any labour, the ſwarm that would not depart, and caſt, will preſently aſcend, becauſe the old Bees have this quality (as all other breeding creatures have) to expel the young, when they have brought them up.

There will the Swarm build as kindly, as if they had of themſelves been caſt. But be ſure you lay betwixt the Hives ſome ſtraight and cleanly ſtick, or ſticks, or rather a board with holes, to keep them aſunder: otherwiſe they will joyn their works together ſo faſt, that they cannot be parted. If you ſo keep them aſunder at *Michael-tide*, if you like the weight of your ſwarm (for the goodneſs of ſwarms is tried by the weight) ſo catched, you may ſet it by for a ſtock to keep. Take heed in any caſe the combs be not broken, for then the other Bees will ſmell the honey, and ſpoil them. This have I tried to be very profitable for the ſaving of Bees.

The Inſtrument hath this form. The great ſtrait piece of wood

the reſt are iron claſps & nails, the claſps are looſe in the ſtaple, two men with two of theſe faſtned to the Hive, will eaſily turn it up.

They gather not till *July*; for then they be diſcharged of their young, or elſe they are become now ſtrong to labour; & now ſap in flowers is ſtrong and proud, by reaſon of time, & force of Sun. And now alſo in the North (and not before) the herbs of greateſt vigour put forth their flowers; as Beans, Fennel, Burrage, &c.

The moſt ſenſible weather for them, is heat and draught, becauſe the neſh Bee can neither abide cold nor wet; and ſhowers (which they well fore-ſee) do interrupt their labours, unleſs they fall in the night; and ſo they further them.

After caſting time, you ſhall benefit your ſtocks much, if you help them to kill their Droans, which by all probability and judgment, are an idle kind of Bees, and waſtful. Some ſay they breed, and have ſeen young Droans in taking their honey, which I know is true. But I am of opinion, that there are alſo Bees which Droans.

which have loſt their ſtings, and ſo being as it were gelded, become idle and great: there is great uſe of them. *Deus & natura nihil fecit fruſtra.* "They hate the Bees, and cauſe them caſt the "ſooner; they never come forth, but when they be over-heated; "they never come home loaden. After caſting-time, and when the Bees want meat, "You ſhall ſee the labouring Bees faſten on them, "two, three, or four at once, as if they were thieves to be led to "the Gallows, and killing them, they caſt them out, and draw "them far from home, as hateful enemies. Our Houſe-wife, if ſhe be the keeper of her own Bees (as ſhe had need to be) may with her bare hand in the heat of the day ſafely deſtroy them in the hives mouth. Some uſe towards night, in a hot day, to ſet before the mouth of the hive a thin board with little holes in it, at which the leſſer Bees may enter, but not the Droans; ſo that you may kill them at your pleaſure.

Annoyances. Snails ſpoil them by night like thieves; they come ſo quietly, and are ſo faſt, that the Bees fear them not; look early and late, eſpecially in a rainy or dewy evening or morning.

Mice are no leſs hurtful, and the rather to Hives of ſtraw: and therefore coverings of ſtraw draw them: they will in, either at the mouth, or ſhear themſelves an hole: The remedy is good Cats, Rats-bane, and watching.

The cleanly Bee hateth the ſmoak as poyſon; therefore let your Bees ſtand nearer your Garden, than your Brew-houſe or Kitchen. They ſay Sparrows and Swallows are enemies to Bees, but I ſee it not.

More Hives periſh by Winters cold, than by all other hurts; for the Bee is tender and nice, and only lives in warm weather, and dies in cold. And therefore, let my Houſe-wife be perſwaded, that a warm dry houſe before deſcribed, is the chiefeſt help ſhe can make her Bees againſt this, and many more miſchiefs. Many uſe againſt cold in Winter, to ſtop up their hive cloſe; and ſome ſet them in houſes, perſwading themſelves, that thereby they relieve their Bees. Firſt, toſſing, moving, is hurtful. Secondly, in houſes, going, knocking, and ſhaking is noiſome. Thirdly too much heat in an houſe is unnatural for them. But laſtly, and eſpecially, Bees cannot abide to be ſtopt up cloſe; for at every warm ſeaſon of the Sun they revive, and living eat, and eating muſt needs purge

purge abroad: in her houſe the cleanly Bee will not purge her ſelf. Judge you what it is for any living creature, not to diſburthen nature. Being ſhut up in calm ſeaſons, lay your ear to the Hive, and you ſhall hear them yearn and yell, as ſo many hundred priſoners. Therefore impound not your Bee, ſo profitable and free a Creature.

Taking of Bees.

Let none ſtand above three years, elſe the combs will be black and knotty, your honey will be thin and uncleanly; and if any caſt after three years, it is ſuch as have ſwarms of old Bees, kept all together, which is great loſs. Smoaking with Rags, Rozen, or Brimſtone, many uſe; ſome uſe drowning in a tub of clean water, and the water well brew'd will be good botchet. Draw out your ſpelks immediately with a pair of pinchers, leſt the Wood grow ſoft and ſwell, and ſo will not be drawn, then muſt you cut your hive.

Straining Honey.

Let no fire come near your Honey, for fire ſoftneth the wax and droſs, and makes them run with the honey: Fire ſoftneth, weakneth, and hindreth honey from purging. Break your combs ſmall, when the dead empty combs are parted from the loaden combs into a ſieve, born over a great bowl, or veſſel with two ſtaves, and ſo let it run two or three days: the ſooner you run it up, the better will it purge. Run your ſwarm honey by it ſelf, and that ſhall be your beſt. The elder your Hives are, the worſe is your honey.

Veſſels.

Uſual Veſſels are of Clay, but after wood be ſatiated with Honey (for it will leak at firſt: for honey is marvellouſly ſearching, though thick, and therefore virtuous) I uſe it rather, becauſe it will not break ſo ſoon with falls, froſts, or otherwiſe, and greater Veſſels of clay will harldly laſt.

When you uſe your Honey, with a ſpoon take off the skin, which it hath put up.

And it is worth the regard, that Bees thus uſed, if you have but forty ſtocks, ſhall yield you more commodity clearly than forty Acres of Ground.

And thus much may ſuffice, to make good Houſewifes love, and have good Gardens and Bees.

DEO LAUS.

The

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A most profitable NEW TREATISE, from approved Experience, of the ART of PROPAGATING PLANTS.

By *SIMON HARWARD.*

CHAP. I.

The Art of Propagating Plants.

THere are four sorts of Planting or Propagating, as in laying of shoots or little branches, whiles they are yet tender, in some pit made at their foot, as shall be said hereafter, or upon a little ladder or basket of earth, tied to the bottom of the branch, or in boaring a Willow through, and putting the Branch of the Tree into the hole, as shall be fully declared in the Chapter of Grafting.

There are likewise Seasons to Propagate in, but the best is in 1.

the Spring, and *March*, when the Trees are in the flower, and do begin to grow lusty. The young planted Cyens or little grafts must be propagated in the beginning of Winter, a foot deep in the earth, and good manure mingled amongst the earth, which you shall cast forth of the pit wherein you mean to propagate it, to tumble it in upon it again. In like manner, your superfluous Cyens, or little Plants must be cut close by the earth, when as they grow about some small imp, which we mean to propagate, for they will do nothing but rot: For to propagate, you must dig the earth round about the tree, that so your roots may be laid in a manner halfe bare. Afterwards draw into length the pit on that side where you mean to propagate, and according as you perceive that the roots will be best able to yield, and
2. be governed in the same pit, to use them, and that with all gentleness, and stop close your Cyen, in such sort, as that the wreath which is in the place where it is grafted, may be a little lower than the Cyens of the new wood growing out of the earth, even so high as it possible may be. If the Trees that you would propagate be somewhat thick, and thereby the harder to ply, and somewhat stiff to lay in the pit, then you may wet the stock almost to the midst, betwixt the root and the wreathing place, so with gentle handling of it, bow down into the pit the wood which the grafts have put forth, and that in as round a compass as you can, keeping you from breaking of it; afterward lay over the cut with gummed wax, or with gravel and sand.

CHAP. II.

Grafting in the Bark.

GRafting in the Bark, is used from mid *August*, to the beginning of Winter, and also when the Western wind beginneth to blow, being from the 7 of *February*, unto the 11 of *June*. But there must be had care, not to graff in the bark in any rainy season, because it would wash away the matter of joyning the one and the other together, and so hinder it.

Grafting in the bud is used in Summer-time, from the end of *May* until *August*, as being the time when the Trees are strong and lust, and full of sap and leaves. To wit, in a hot Country,

Country, from the midſt of *June* unto the midſt of *July*, but in cold Countries to the midſt of *Auguſt*, after ſome ſmall ſhowers of Rain.

If the Summer be ſo exceeding dry, as that ſome Trees do withhold their ſap, you wait the time till it do return.

Graft from the full of the Moon, until the end of the old.

You may graft in a cleft, without having regard to Rain, for the ſap will keep it off.

You may graft from mid *Auguſt*, to the beginning of *November*: Cows dung with ſtraw doth mightily preſerve the graft.

It is better to graft in the evening than in the morning.

The furniture and tools of a Grafter, are a basket to lay his Grafts in, Clay, Gravel, Sand, or ſtrong Earth to draw over the Plants cloven, Moſs, Woollen cloaths, Barks of Willow to joyn to the late things and earth before ſpoken, and to keep them faſt: Oziers to tie again upon the bark, to keep them firm and faſt, gummed Wax to dreſs and cover the ends and tops of the grafts newly cut, that ſo the rain and cold may not hurt them; neither yet the ſap riſing from below, be conſtrained to return again unto the ſhoots. A little Saw or hand-ſaw, to ſaw off the ſtock of the Plants; a little Knife or Pen-knife to graff, and to cut and ſharpen the grafts, that ſo the bark may not peel nor be broken; which often cometh to paſs when the graft is full of ſap. You ſhall cut the graff ſo long, as that it may fill the cliff of the Plant, and therewithal it muſt be left thicker on the bark-ſide, that ſo it may fill up both the cliff and other inciſions, as any need is to be made, which muſt be always new ground, well burniſhed without all ruſt. Two wedges, the one broad for thick Trees, the other narrow for leſs and tender Trees, both of them of Box, or ſome other hard and ſmooth wood, or ſteel, or of very hard iron, ſo they may need leſs labour in making them ſharp.

A little hand-bill to ſet the Plants at more liberty, by cutting off ſuperfluous boughs, helved of Ivory, Box, or Braſil.

CHAP. III.

Grafting in the Cleft.

THe manner of Grafting in a Cleft, to wit, the ſtock being cloven, is proper not only to trees, which are as great as a man's legs or arms, but alſo to greater. It is true, that being trees cannot eaſily be cloven in their ſtock, that therefore it is expedient to make incition in ſome one of their branches, and not in the main body, as we ſee to be practiſed in great Apple-trees, and great Pear-trees, and as we have already declared heretofore.

To graft in the cleft, you muſt make choice of a graft that is full of ſap and juyce, but it muſt not be but till from after *January* until *March*: And you muſt not thus graft in any tree that is already budded, becauſe a great part of the juyce and ſap would be already mounted up on high, and riſen to the top, and there diſperſed and ſcattered hither and thither, into every ſprig and twig, and uſe nothing welcome to the graft.

You muſt likewiſe be reſolved not to gather your graft the day you graft in, but ten or twelve days before; for otherwiſe, if you graft it new gathered, it will not be able eaſily to incorporate it ſelf with the body, and ſtock, where it ſhall be grafted, becauſe that ſome part of it will dry, and by this means will be a hindrance in the ſtock to the riſing up of the ſap, which it ſhould communicate unto the graft, for the making of it to put forth; and whereas the dried part will fall a crumbling, and breaking through his rottenneſs, it will cauſe to remain a concavity, or hollow place in the ſtock, which will be an occaſion of a like inconveniencie to befal the graft. Moreover, the graft being new and tender, might eaſily be hurt of the bands, which are of neceſſity to be tied about the ſtock, to keep the graft firm and faſt. And you muſt further ſee, that your plant was not of late removed, but that it have already fully taken root.

7. When you are minded to graft many grafts into one Cleft, you muſt ſee that they be cut in the end all alike.

See that the grafts be of one length, or not much differing, and it is enough, that they have three or four eylets without the Wrench when the Plant is once ſawed, and lopped of all his bran-

branches, if it have many: then you muſt leave but two at the moſt before you come to the cleaving of it; then put to your little Saw, or your Knife, or other edged tool that is very ſharp, cleave it quite through the middeſt-in gentle and ſoft ſort: Firſt, tying the ſtock very ſure, that ſo it may not cleave further than is need; and then put to your wedges into the cleft until ſuch time as you have ſet in your grafts, and in cleaving of it, hold the Knife with the one hand, and the tree with the other, to help keep it from cleaving too far. Afterwards put in your wedge of Box, or Braſil, or Bone, at the ſmall end, ſo that you may the better take it out again when you have ſet in your grafts.

If the ſtock be cloven, or the bark looſed too much from the wood, then cleave it down lower, and ſet your grafts in, and look that your Inciſion be fit, and very juſtly anſwerable to the cleft, and that the two ſaps, firſt, of the plant and graft, be right and even ſet one againſt the other, and ſo handſomly fitted, as that there may not be the leaſt appearance of any cut or cleft. For if they do not thus jump one with another, they will never take one with another, becauſe they cannot work their ſeeming matter, and as it were cartilaginous glue in convenient ſort or manner to the giving of their joynts together. You muſt likewiſe beware not to make your cleft overthwart the pitch, but ſomewhat aſide.

The bark of your plant being thicker than that of your graft, you muſt ſet the graft ſo much the more outwardly in the cleft, that ſo the two ſaps may in any caſe be joyned, and ſet right the one with the other, but the rind of the Plant muſt be ſomewhat more out than that of the grafts or cloven ſide.

To the end that you may not fail of this work of imping, you muſt principally take heed, not to over-cleave the ſtocks of your trees. But before you widen the cleft with your wedges, bind and go about the ſtock with two or three turns, and that with an Ozier, cloſe drawn together, underneath the ſame place, where you would have your cleft to end, that ſo your ſtock cleave not too far, which is a very uſual cauſe of the miſcarrying of grafts, inſomuch as hereby the cleft ſtandeth ſo wide and open, as that it cannot be ſhut, and ſo not grow together again: but in the mean time ſpend it ſelf, and breaketh out all his life in that 10.

that place which is the cauſe that the ſtock and the graft are both ſplit. And this falleth out moſt often in Plum-trees, and branches of Trees. You muſt be careful to joyn the rinds of your grafts and plants, that nothing may continue open, to the end that the Wind, moiſture of the Clay or Rain running upon the grafted place, do not get in: when the plant cleaveth very ſtreight, there is not any danger nor danger in ſloping down the graft. If
10. you leave it ſomewhat uneven or rough in ſome places, or that the ſaps both of the one and the other may the better grow, and be glewed together, when you grafts are once well joyned to our Plants, draw out your wedges very ſoftly, leſt you diſplace them again: you may leave therewith in the cleft ſome ſmall end of a wedge of green wood, cutting it very cloſe with the head of the Stock: Some caſt glue into the cleft, ſome ſugar, and ſome gummed Wax.

11. If the Stock of the Plant, whereupon you intend to graft, be not ſo thick as your graft, you ſhall graft it after the faſhion of a Goats-foot, make a cleft in the ſtock of the plant, not direct, but byas, and that ſmooth and even, not rough; then apply and make faſt thereto the graft with all his bark on, and anſwering to the bark of the Plant. This being done, cover the place with the fat earth and Moſs of the Woods tied together with a ſtrong band: ſtick a pole of Wood by it to keep it ſtedfaſt.

CHAP. IV.

Grafting like a Scutcheon.

IN grafting after the manner of a Scutcheon, you ſhall not vary not differ much from that of the Flute or Pipe, ſave only that the Scutcheon-like graft having one eyelet, as the other hath, yet
13. the wood of the tree whereupon the Scutcheon-like graft is grafted hath not any knob, or bud, as the wood whereupon the graft is grafted after the manner of a pipe.

12. In Summer, when the Trees are well repleniſhed with ſap, and that their new Cyens begin to grow ſomewhat hard, you ſhall take a ſhoot at the end of the chief branches of ſome noble and reclaimed trees, whereof you would fain have ſome fruit, and not many of his old ſtore or wood, and from thence raiſe a good eylet, the tail and all thereof to make your grafts. But when you chuſe, take the thickeſt, and groſſeſt, divide the tail in

the

the midſt before you do any thing elſe, caſting away the leaf (if it be not a Pear-plum-tree, for that would have two or three leaves) without removing any more of the ſaid tail; afterward with the point of a ſharp knife, cut of the Bark of the ſaid ſhoot, the pattern of a ſhield, of the length of a nail.

In which there is only one eylet higher than the midſt, toge- 13.
ther with the reſidue of the tail which you left behind; and for the lifting of the ſaid graft in Scutcheon, after that you have cut the bark of the ſhoot round about, without cutting of the wood within, you muſt take it gently with your thumb, and in putting it away, you muſt preſs upon the wood from which you pull it, that ſo you may bring the bud and all away together with the Scutcheon; for if you leave it behind with the wood, then were the Scutcheon nothing worth. You ſhall find out if the Scutcheon be nothing worth, if looking within when it is pulled away from the wood of the ſame ſuit, you find it to have a hole within, but more manifeſtly, if the bud do ſtay behind in the wood, which ought to have been in the Scutcheon.

Thus your Scutcheon being well raiſed and taken off, hold 14.
it a little by the tail betwixt your lips, without wetting of it, even until you have cut the bark of the tree where you would graft it, and look that it be cut without any wounding of the wood within, after the manner of a crutch, but ſomewhat longer than the Scutcheon that you have to ſet in it, and in no place cutting the wood within; after you have made inciſion, you muſt open it, and make it gape wide on both ſides, but in all manner of gentle handling, and that with a little Sizers of bone, and ſeparating the wood and the bark a little within, even ſo much as your Scutcheon is in length and breadth: you muſt take heed that in doing hereof, you do not hurt the bark.

This done, take your Scutcheon by the end, and your tail 15.
which you have left remaining, and put into your inciſion made in your tree, lifting up ſoftly your two ſides of the inciſion with your ſaid Sizers of bone, and cauſe the ſaid Scutcheon to joyn, and lie as cloſe as may be, with the wood of the tree, being cut as aforeſaid, in waying a little upon the end of your rind ſo cut; and let the upper part of your Scutcheon lie cloſe unto the upper end of your inciſion, or bark of your ſaid tree: afterwards

bind

bind your Scutcheon about with a band of Hemp, as thick as a pen of a quill, more or leſs, according as your Tree is ſmall or great, taking the ſame Hemp in the middeſt, to the end that either part of it may perform a like ſervice; and wreathing and binding of the ſaid Scutcheon into the inciſion of a tree, and it muſt not be tied too ſtreight, for that will keep it from taking, the joyning of the one ſap with the other being hindred thereby, and neither the Scutcheon nor yet the Hemp muſt be moiſt or wet; and the more juſtly to bind them together, begin at the back-ſide of the tree, right over againſt the middeſt of the inciſion, and from thence come forward to joyn them before, above the eylet and tail of the Scutcheon, croſſing your band of Hemp ſo oft as the two ends meet, and from thence returning back again, come about and tie it likewiſe underneath the eylets, and thus caſt about your hand ſtill backward and forward until the whole clift of the inciſion be covered above and below

17. with the ſaid Hemp, the eylet only excepted, and his tail, which muſt not be covered at all; his tail will fall away one part after another, and that ſhortly after the ingrafting, if ſo be the Scutcheon will take. Leave your Trees and Scutcheons thus bound for the ſpace of one month, and the thicker, a great deal longer time. Afterward look them over, and if you perceive them to grow together, untie them, or at leaſtwiſe cut the Hemp behind them, and leave them uncovered. Cut alſo your branch two or three fingers above that, that ſo the imp may proſper the better; and thus let them remain till after winter, about the month of *March* and *April*.

18. If you perceive that the bud of your Scutcheon do ſwell and come forward, then cut off the tree three fingers or thereabouts, above the Scutcheon; for if it be cut off too near the Scutcheon, at ſuch time as it putteth forth his firſt bloſſom, it would be a means greatly to hinder the flowing of it, and cauſe alſo that it ſhould not thrive and proſper well; after that one year is paſt, and that the ſhoot beginneth to be ſtrong, beginning to put forth the ſecond bud and bloſſom, you muſt go forward to cut off in byas-wiſe the three fingers in the top of the tree which you left there, when you cut it the year going before, as hath been ſaid.

When

When your ſhoot ſhall have put forth a great deal of length, you may ſtick down there, even hard joyned thereunto, little ſtakes, tying them together very gently and eaſily; and theſe ſhall ſtay your ſhoots and prop them up, letting the wind from doing any harm unto them. Thus you may graft white Roſes in red, and red in white. Thus you may graft two or three Scutcheons, provided that they be all of one ſide; for they will not be ſet equally together in height, becauſe then they would be all ſtarvelings; neither ſhould they be directly one over another; for the lower would ſtay the riſing up of the ſap of the Tree, and ſo thoſe above ſhould conſume in penury, and undergo the aforeſaid inconvenience. You muſt note, that the Scutcheon which is gathered from the Eyen of a tree whoſe fruit is ſowr, muſt be cut in ſquare form, and not in the plain faction of a Sutcheon. It is ordinary to graff the ſweet Quince-Tree, baſtard Peach-tree, Apricock-tree, Jujube-tree, ſowr Cherry-tree, ſweet Cherry-tree, and Cheſtnut-tree, after this faſhion, howbeit they may be grafted in the cleft more eaſily, and more profitably; although divers be of a contrary opinion, as thus: Take the grafts of ſweet Quince-tree, and Baſtard Peach-tree, of the faireſt wood, and beſt fed that you can find, growing upon the wood of two years old, becauſe the wood is not ſo firm and ſolid as the others, and you ſhall graft them upon ſmall Plum-tree ſtocks, being of the thickneſs of ones thumb; theſe you ſhall cut after the manner of a Goats foot: you ſhall not go about to make the cleft of any more ſides then one, being about a foot high from the ground; you muſt open it with your ſmall wedge: and being thus grafted, it will ſeem to you that it is open but of one ſide; afterward you ſhall wrap it up with a little Moſs, putting thereto ſome gummed Wax, or Clay, and bind it up with Oziers to keep it ſurer, becauſe the ſtock is not ſtrong enough it ſelf to hold it, and you ſhall furniſh it every manner of way, as others are dealt withall; this is moſt profitable.

19. 20. 21.

The time of Grafting.

All Months are good to graft in, (the Month of *October* and *November* onely excepted) But commonly, graft at that time of

the winter, when the ſap beginneth to ariſe.

In a cold Country graft later, in a warm Country earlier.

The beſt time generally is from the firſt of *February*, untill the firſt of *May*.

The grafts muſt always be gathered in the old of the Moon.

For grafts chooſe ſhoots of a year old, or at the furthermoſt two years old.

If you muſt carry grafts far, prick them into a Turnip newly gathered, or lay earth about the ends.

If you ſet ſtones of Plums, Almonds, Nuts, or Peaches: Firſt, let them lye a little in the Sun, and then ſteep them in Milk or Water three or four dayes, before you put them into the earth.

Dry the Kirnels of Pippins, and ſow them in the end of *November*.

The ſtone of a Plum-tree muſt be Set a foot deep, in *November* or *February*.

The Date-ſtone muſt be Set the great end downwards, two cubits deep in the earth, in a place enriched with dung.

The Peach-ſtone would be ſet preſently after the Fruit is eaten, ſome quantity of the fleſh of the Peach remaining about the ſtone.

If you would have it to be excellent, graft it afterward upon an Almond-tree.

The little Cyens of Cherry-trees, grown thick with hair, rots, and thoſe alſo which do grow up from the Roots of the great Cherry-trees, being removed, do grow better and ſooner then they which come of ſtones; but they muſt be removed and planted, while they are but two or three years old, the branches muſt be lopped.

A very profitable Invention, for the ſpeedy Planting of an Orchard of Fruit-Trees.

ABout the end (or rather the middle) of *June*, the ſap being then in the boughs or Tops of the Trees, let ſome one of diſcretion go up into the boughs of the Tree intended, and with a keen-knife cut the bark of ſome ſmooth bough, ſo choſen, round about the ſame, quite through the ſame bark, to the very bare wood, in two places, (toward the but of the bough) a full hand breadth the one from the other, and take off the bark clean clearly from the ſaid bough, and caſt it away, and wipe the ſap off that bared place; Then take ſome of the ſtiffeſt clay you can have, and wrap it hard, round about the ſaid bared place, (that it may ſtop the ſap when it deſcendeth;) bind on this clay with ſallow ſlings, or the like, very hard; let this day be two inches thick at leaſt. Then prepare a certain quantity of good rank mould, tempered with ſhort muck and misken water, and make mortar thereof, and wrap a good quantity of it as big as a foot-ball, upon the firm bark remaining cloſe above the ſaid clay, that it may touch the ſame; put moſs upon it, and, as before, bind it well, and ſo let it continue growing upon the ſame Tree till *February*. Then with a fine ſaw carefully take off the ſaid bough cloſe below the clay, not periſhing the upper mortar, and ſet that bough, with the clay and mortar on it, in ſome good ground, and there let it remain to grow; for the ſap it cannot paſs downward for the clay, but ſtayeth in the upper mortar, and breeds roots, and poſſibly (God willing) may bear fruit the next Summer following. Thus you may order many ſuch boughs as aforeſaid, and quickly plant an Orchard of bearing Trees. If the bough be as big as the ſmall of ones leg, it is ſo much the better: *probatum eſt.*

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THE

THE

HUSBAND-MAN'S Fruitful Orchard.

FOR

The true ordering of all ſorts of Fruits

in their due ſeaſons; and how double increaſe comes by care in gathering year after year: as alſo the beſt way of carrying by land or by water, with their preſervation for longeſt continuance.

OF all ſtone Fruit, Cherries are the firſt to be gathered: of which, though we reckon four ſorts; *Engliſh*, *Flemmiſh*, *Gaſcoign*, and *Black*, yet are they reduced to two, the early, and the ordinary; the early are thoſe whoſe graſts came firſt from *France* and *Flanders*, and are now ripe with us in *May*; the ordinary is our own natural Cherry, and is not ripe before *June*: they muſt be carefully kept from Birds, either with nets, noiſe, or other induſtry.

They

Gathering of Cherries.

They are not ripe all at once, nor may be gathered at once, therefore with a light Ladder, made to ſtand of it ſelf without hurting the boughs, moun to the Tree, and with a gathering-hook, gather thoſe which be full ripe, and put them into your Cherry-pot, or Kybzey hanging by your ſide, or upon any bough you pleaſe, and be ſure to break no ſtalk, but that the Cherry hangs by, and pull them gently, lay them down tenderly, and handle them as little as you can.

To carry Cherries.

For the conveyance or portage of Cherries, they are beſt to be carried in broad Baskets like ſives, with ſmooth yielding bottom, only two broad laths going along the bottom; and if you do tranſport them by ſhip, or boat, let not the ſives be filled in the top, leſt ſetting one upon another, you bruiſe and hurt the Cherries: if you carry by horſe-back, then panniers well lined with Fern, and packt full and cloſe, is the beſt and ſafeſt way.

Other ſtone-frrit.

Now for the gathering of all other ſtone-fruit, as Nectarines, Apricocks, Peaches, Pear-Plums, Damſons, Bullis, and ſuch like, although in their ſeveral kinds, they ſeem not to be ripe at once on one Tree; yet when any is ready to drop from the Tree, though the other ſeem hard, yet they may alſo be gathered, for they have received the full ſubſtance the Tree can give them; and therefore the day being fair, and the dew drawn away, ſet up your Ladder, and as you gathered your Cherries ſo gather them: only in the bottom of your large ſives, where you part them, you ſhall lay Nettles, and likewiſe in the top, for that will ripen thoſe that are moſt unready.

athering of ears.

In gathering of Pears are three things obſerved, to gather for expence, for tranſportation, or to ſell to the Apothecary. For expence, and your own uſe, then gather them as ſoon as they change, and are as it were half ripe, and no more but thoſe which are changed, letting the reſt hang till they change alſo. for thus they will ripen kindly, and not rot ſo ſoon as if they were full ripe at the gathering. But if your Pears be to be tranſported far, either by Land or Water, then pull one from the Tree, and cut it in the middeſt, and if you find it hollow about the coar, and the kernel a large ſpace to lie, although no Pear

be

be ready to drop from the Tree, yet then they may be gathered, and then laying them on a heap one upon another, as of neceſſity they muſt be for tranſportation, they will ripen of themſelves, and eat kindly: but gathered before, they will wither, ſhrink, and eat rough, loſing not only their taſte, but beauty.

Now for the manner of gathering, albeit ſome climb into the trees by the boughs, and ſome by Ladder, yet both is amiſs; the beſt way is with the Ladder before ſpoken of, which ſtandeth of it ſelf, with a basket and a line, which being full, you muſt gently let down, and keeping the ſtring ſtill in your hand, being emptied, draw it up again, and ſo finiſh your labour, without troubling your ſelf or hurting the tree.

Now, touching the gathering of Apples, it is to be done according to the ripening of the fruit; your Summer-Apples firſt, and the Winter after. Gathering of Apples.

For Summer fruit, when it is ripe, ſome will drop from the Tree, and Birds will be pecking at them: But if you cut oat one of the greeneſt, and find it as was ſhew'd you before of the Pear, then you may gather them, and in the houſe they will come to their ripeneſs and perfection. For your Winter-fruit, you ſhall know the ripeneſs by the obſervations before ſhewed; but it muſt be gathered in a fair, ſunny, and dry day, in the wane of the Moon, and no Wind in the Eaſt, alſo after the dew is gone away; for the leaſt wet or moiſture will make them ſubject to rot and mildew; alſo you muſt have an apron to gather in, and to empty into the great basket, and a hook to draw the boughs unto you, which you cannot reach with your hands at eaſe: The apron is to be an ell every way, loopt up to your girdle, ſo as it may ſerve for either hand without any trouble; and when it is full, unlooſe one of your loops, and empty it gently into the great Basket, for in throwing them down roughly, their own ſtalks may prick them, and thoſe which are prickt, will ever rot. Again, you muſt gather your fruit clean without leaves or brunts, becauſe the one hurts the Tree, for every brunt would be a ſtalk for fruit to grow upon; the other hurts the fruit by bruiſing, and pricking it, as it is laid together, and there is nothing ſooner rotteth fruit,

fruit, then the green and withered leaves lying among them; neither muſt you gather them without any ſtalk at all: for ſuch fruit will begin to rot where the ſtalk ſtood.

To uſe the fallings.

For ſuch fruit as falleth from the Trees, and are not gathered, they muſt not be laid with the gathered fruit; and of fallings there are two ſorts, one that falls through ripeneſs, and they are beſt, and may be kept to bake or roaſt: the other windfalls, falling before they are ripe, and they muſt be ſpent as they are gathered, or elſe they will wither and come to nothing; and therefore it is not good by any means to beat down fruit with Poles, or to carry them in Carts looſe and jogging, or in ſacks where they may be bruiſed.

Carriage of fruit.

When your fruit is gathered, you ſhall lay them in deep Baskets of Wicker, which ſhall contain four or ſix Buſhels, and ſo between two men, carry them to your Apple-Loft, and in ſhooting, or laying them down, be very careful that it be done with all gentleneſs and leiſure, laying every ſort of fruit ſeverally by it ſelf; but if there be want of room, having ſo many ſorts that you cannot lay them ſeverally, then ſome ſuch fruit as is neareſt in taſte and colour, and of Winter-fruit, ſuch as will taſte alike, may, if need require, be laid together, and in time you may ſeparate them, as ſhall be ſhewed hereafter. But if your fruit be gathered far from your Apple-loft, then muſt the bottoms of your Baskets be lined with green Fern, and draw the ſtubborn ends of the ſame through the Basket, that none but the ſoft leaf may touch the fruit, and likewiſe cover the tops of the Baskets with Fern alſo, and draw a ſmall cord over it, that the Fern may not fall away, nor the fruit ſcatter out, or jogg up and down; and thus you may carry fruit by Land, or by Water, by Boat, or Cart, as far as you pleaſe: and the Fern doth not only keep them from bruiſing, but alſo ripens them, eſpecially Pears. When your fruit is brought to your Apple-Loft, or ſtore-houſe, if you find them not ripened enough, then lay them in thicker heaps upon Fern, and cover them with Fern alſo: and when they are near ripe, then uncover them, and make the heaps thinner, ſo as the air may paſs through them; and if you will not haſten the ripening of them, then lay them on the boards without

out any Fern at all. Now for Winter, or long lasting Pears, they may be packt either in Fern or Straw, and carried whither you please; and being come to the journies end, must be laid upon sweet straw: but beware the room be not too warm, nor windy, and too cool, for both are hurtfull: but in a temperate place, where they may have air, but not too much.

Wardens are to be gathered, carried, packt, and laid as Winter Pears are. Of Wardens.

Medlers are to be gathered about *Michaelmas*, after the frost hath toucht them; at which time they are in their full growth, and will then be dropping from the tree, but never ripe upon the tree. When they are gathered, they must be laid in a basket, sieve, barrel, or any such cask, and wrapt about with woollen cloaths, under, over, and on all sides, and also some weight laid upon them, with a board between: for except they be brought into a heat, they will never ripen kindly, or taste well. Of Medlers.

Now when they have lain till you think some of them be ripe, the ripest, still as they ripen, must be taken from the rest; therefore powr them out into another sieve or basket leisurely, that so you may well find them that be the ripest, letting the hard ones fall into the other basket, and those which be ripe laid aside: the other that be half ripe sever also into a third sieve or basket; for if the ripe and half ripe be kept together, the one will be mouldy, before the other be ripe. And thus do till all be throughly ripe.

Quinces should not be laid with other fruit; for the scent is offensive both to other fruit, and to those that keep the fruit or come amongst them; therefore lay them by themselves upon sweet straw, where they may have air enough; they must be packt like Medlers, and gathered with Medlers. Of Quinces.

Apples must be packt in Wheat or Rye straw, and in maunds or baskets loined with the same, and being gently handled, will ripen with such packing and lying together. If severall sorts of apples be packt in one maund or basket, then between every sort lay sweet straw of a pretty thickness. To pack Apples.

Apples must not be powred out, but with care and leisure: first, the straw pluckt clean from them, and then gently Emptying and laying apples.

take out every ſeveral ſort, and place them by themſelves: but if for want of room you mix the ſorts together, then lay thoſe together that are of equal laſting; but if they have all one taſte, then they need no ſeparation. Apples that are not of like colours ſhould not be laid together, and if any ſuch be mingled, let it be amended, and thoſe which are firſt ripe, let them be firſt ſpent, and to that end, lay thoſe apples together, that are of one time of ripening; and thus you muſt uſe Pippins alſo, yet will they indure bruiſes better than another fruit, and whilſt they are green will heal one another.

Difference in fruit.

Pippins though they grow of one tree, and in one ground, yet ſome will laſt better than other-ſome, and ſome will be bigger then others of the ſame kind, according as they have more or leſs of the Sun, or more or leſs of the droppings of the trees or upper branches: therefore let every one make moſt of that fruit which is faireſt and longeſt laſting. Again, the largeneſs and goodneſs of fruit conſiſts in the age of the tree; for as the tree increaſeth, ſo the fruit increaſeth in bigneſs, beauty, taſte, and firmneſs: and otherwiſe as it decreaſeth.

Tranſporting fruit by water.

If you be to tranſport your fruit far by water, then provide ſome dry hogſheads or barrels, and pack in your apples, one by one, with your hand, that no empty place may be left, to occaſion fogging; and you muſt line your veſſel at both ends with fine ſweet ſtraw, but not the ſides, to avoid heat; and you muſt then bore a dozen holes at either end, to receive air ſo much the better, and by no means let them take wet. Some uſe, that tranſport beyond ſeas, to ſhut the fruit under hatches upon ſtraw; but it is not ſo good, if casks may be gotten.

When not to tranſport fruit.

It is not good to tranſport fruit in *March*, when the wind blows bitterly, nor in froſty weather, neither in the extream heat of Summer.

To convey ſmall ſtore of fruit.

If the quantity be ſmall you would carry, then you may carry them in doſſers or paniers, provided they may be ever filled cloſe; and that Cherries and Pears be lined with green Fern, and Apples with ſweet ſtraw; and that, but at the bottoms and tops, not on the ſides.

Rooms for fruit.

Winter fruit muſt lye neither too hot, nor too cold, too cloſe, nor too open; for all are offenſive. A low Room or Cellar that

That is sweet, and either boarded or paved, and not too close, is good from *Christmas* till *March*; and Rooms that are seiled over-head, and from the ground, are good from *March* till *May*, then the Cellar again, from *May* till *Michaelmas*. The apple-loft would be seiled or boarded, which if it want, take the longest Rye-straw, and raise it against the walls, to make a fence as high as the fruit lyeth, and let it be no thicker than to keep the fruit from the wall, which being moist, may do hurt; or if not moist, then the dust is offensive.

Sorting of fruit.

There is some fruit which will last but untill *Allhallantide*; they must be laid by themselves; then those which will last till *Christmas*, by themselves; then those which will last till it be *Candlemas*, by themselves; those that will last till *Shrove-tide*, by themselves; and Pippins, Apple-Johns, Pear-mains, and Winter Russettings, which will last all the year, by themselves.

Now if you spy any rotten fruit in your heaps, pick them out, and with a Tray for the purpose, see you turn the heaps over, and leave not a tainted Apple in them, dividing the hardest by themselves, and the broken skinned by themselves to be first spent, and the rotten ones to be cast away; and ever as you turn them, and pick them, under-lay them with fresh straw: thus shall you keep them for your use, which otherwise would rot suddenly.

Time of stirring fruit.

Pippins, John-Apples, Pear-mains, and such like long lasting fruit, need not to be turned till the week before *Christmas*, unless they be mixt with the other of riper kind, or that the fallings be also with them, or much of the first straw left amongst them: the next time of turning is at *Shrove-tide*, and after that once a month till *Whitson-tide*, and after that, once a fortnight; and ever in the turning lay your heaps lower and lower, and your straw very thin: provided you do none of this labour in any great frost, except it be in a close Cellar. At every thaw, all fruit is moist, and then they must not be touched: neither in rainy weather, for then they will be dank also; and therefore at such seasons it is good to set open your windows and doors, that the air may have free passage to dry them, and at nine of the clock in the forenoon in Winter, and at six in the forenoon,

and

and at eight at night in Summer; only in *Mareh* open not your windows at all.

All lasting fruit, after the midst of *May*, begin to whither, because then they wax dry, and the moisture gone which made them look plump, they must needs whither, and be small; and nature decaying, they must needs rot. And thus much touching the ordering of Fruits.

FINIS.